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# JUNIOR ARITHMETIC



GRADE THREE

# CONTENTS

CHAPTER 1

## SUMMER HOLIDAYS

Page	Page		
Bobby's Birthday Riddles . . . . .	3	Gathering Eggs . . . . .	21
Playing the Dart Game . . . . .	8	Learning New Facts . . . . .	22
Bobby's Riddle Helpers . . . . .	10	Number Cards . . . . .	23
Addition Facts of Eleven . . . . .	11	On the Farm . . . . .	24
Getting Ready for the Party . . . . .	12	Problems about the Farm . . . . .	25
Reading Number Signs . . . . .	14	Learning through Practice . . . . .	26
The Doubles . . . . .	15	The Frog-Pond Game . . . . .	27
The Birthday Party . . . . .	16	Betty's Scores . . . . .	28
Learning about Twelve . . . . .	17	Subtraction With Large Numbers . . . . .	28
Cooking Eggs . . . . .	19		
Thirteen . . . . .	20	Can You Open the Door? . . . . .	29

CHAPTER 2

## SCHOOL DAYS AND AUTUMN FUN

The First Day of School . . . . .	30	Shopping for Mother . . . . .	43
Practice in Addition . . . . .	31	Giving a Play . . . . .	44
In the Schoolroom . . . . .	32	Mr. Fair Makes a Mistake . . .	45
Who Is Missing? . . . . .	34	Quick Drill . . . . .	46
Who Made the Mistake? . . . . .	35	Playing House . . . . .	47
Banking Day . . . . .	37	Zero the Clown . . . . .	48
Which Paper is Neatest? . . . . .	38	Gathering Hickory Nuts . . . .	50
The Circus . . . . .	39	Armistice Day at the Farm . .	51
Miss Fisher's Story . . . . .	40	Reading and Writing Money . .	52
Getting Ready for Hallowe'en . .	42	Can You Open the Door? . . . .	54

CHAPTER 3

## HOLIDAY TIME

Planning for Christmas.....	55	Tricks in Subtraction.....	60
Christmas Lists.....	56	Problems for Careful Readers.....	61
Checking Subtraction.....	57	Practice in Subtraction.....	61
A Christmas Window.....	59	A Christmas Trip.....	62

(Continued on inside back cover.)

# JUNIOR ARITHMETIC

## **GRADE THREE**

Grace Roddy



AUTHORIZED BY THE MINISTER OF EDUCATION  
FOR ONTARIO

PRICE 10 CENTS

THE PRICE PRINTED ON THIS BOOK DOES NOT REPRESENT THE TOTAL COST, AS AN ADDITIONAL SUM IS PAID TO THE PUBLISHER BY THE  
DEPARTMENT OF EDUCATION

TORONTO  
THE EDUCATIONAL BOOK COMPANY, LIMITED

1941



## CHAPTER 1 SUMMER HOLIDAYS



### Bobby's Birthday Riddles

"Bobby, aren't you going to get up? It is seven o'clock," called Father from downstairs.

"I'm still sleepy," said Bobby.

Betty laughed and said, "I shouldn't be sleepy to-day if I were you, Bobby."

"This is the third day of August," said Mother.  
"Have you ever heard of August third?"

"My birthday!" shouted Bobby, as he jumped out of bed. "I shall be down in five minutes."

"Hurry!" said Betty. "We have a big surprise for you."

In less than five minutes Bobby came running down the stairs.

Father caught Bobby as he came into the room.

"Over my knee you go. One, two, three, four, five, six, seven, eight, and one to make you grow," said Father.

Bobby laughed. "I'm glad I'm not any older," he said. "Now, Betty, what is the surprise?"

"Look on top of the clock," she answered.

Bobby ran to the clock. On top of it he found a paper. He laughed as he read it.

"A riddle," he said. "I like riddles."

"Read it to us. Father and Mother and I like riddles, too," said Betty.

"I am taller than the house," read Bobby. "I am the tallest of all. I have very long arms. Under me you will find a birthday present."

"What is taller than the house and has long arms?" asked Bobby. "This must be a joke."

"No, it isn't," said Mother. "You have seen it hundreds of times, Bobby. It is very tall."

"Oh, I know!" cried Bobby. "It's a tree! It must be the big tree in the front yard!"

Bobby ran out of the house. Under the tallest tree in the front yard he found a little box.

"This must be it," he said, as he opened the box. In the box was a knife from Betty.

"Thank you, Betty," said Bobby. "This is just the knife that I have wanted."

"Now look up in the tree, Bobby," said Betty.

Bobby looked up. On the lowest branch he saw a paper. He had to use a stick to get it.

"Look at this funny riddle," he said.

You will find me over  
the left eye of  
Father's iron horse.



"Wouldn't it be funny to see Father ride an iron horse!" said Bobby, laughing. "I didn't know he had an iron horse. Where can it be?"

Bobby hunted and hunted, but he could not find the horse. At last he said, "I give up."

Just then Bobby saw the car standing in front of the garage.

"Oh, the car is the iron horse," said Bobby. "The headlights are the eyes!"

On the left headlight he found a little bag.

"Money!" cried Bobby, as he looked in the bag.

"That's from Grandmother," said Betty. "How much money is in the bag?"

"There are eight nickels here," said Bobby. "5, 10, 15, 20, 25, 30, 35, 40. Grandmother has given me 40 cents."

"Grandmother always gives you five cents for each year that you are old," said Father.

"I wish I were a hundred," said Bobby with a laugh. "Here's a letter in the bag, too."

He read: "There is another riddle in the upper right drawer of your dresser."

Bobby ran into the house and went upstairs. In the upper right drawer of his dresser he found a riddle. He read it and hurried to the back yard.

"Here's the riddle!" he said, and began to read.

"I am in the back yard. When you hunt for me, look for something pink that is sometimes put in water. There is a big box for Bobby under me. Watch out, for I like to scratch."

"What can it be?" asked Bobby. "Ducks like to be put in water. I am going to look for a duck."

Betty laughed.

"I have never seen a pink duck," she said.

"Kittens scratch! It's a kitten!" said Bobby.

"We never put kittens in water," said Betty.

Bobby stopped guessing and began to hunt. He looked all over the yard. But he could not find anything pink that is sometimes put in water.

"Oh, Bobby! Can't you see?" said Betty. "It is almost near enough to scratch you."

"Mother's rose-bushes!" shouted Bobby. "One of them has pink roses, and it scratches. Mother puts the roses in water when she picks them."

Under the bush was a big box. He opened it. "It's a dart game from Grandfather," he said. "We'll have fun playing with this, Betty."

"What's this?" said Betty as she picked up a card that fell out of the box. "Read it, Bobby."

"You will find me in my big brother's house," he read. "His house has the widest door and the narrowest window. My brother is taller and wider and longer than I. I am the big surprise!"

"The big surprise! Where is it?" asked Bobby.

"I know!" he shouted. "I'll look in the garage! It has the widest door and the narrowest window."

Away he ran to the garage.

"Oh! What a surprise!" he said. "This is the best bicycle I've ever seen!"

Bobby was very happy about the bicycle. He took it out of the garage as fast as he could.

"If there are any more riddles, you may answer them, Betty," he said, and away he went on his new bicycle.





### Playing the Dart Game

Bobby and Betty were playing the dart game. Betty threw two darts and hit 3 and 6.

"Now I must add to get my score," said Betty. "3 and 6 are nine. My score is 9."

Bobby first hit 5. Then he hit 6.

"I can't add my score," said Bobby. "How many are 6 and 5, Betty?"

"6 and 5 are 11," said Betty. "So you win, Bobby, because 11 is more than 9."

Betty showed Bobby all the pairs of numbers that make 11, but you can find them out for yourself. Use 11 blocks, or eleven sticks, or 11 marbles. Write down all the pairs that you find. Look at "The Addition Facts of Eleven" on page 11. See if you were right.

The number stories, or problems, on the next page tell more about the dart game.

We add to find the answer for each problem.

1. Bobby and Betty asked 4 girls and 7 boys to play the dart game. How many children did they ask to play?

2. Jane threw the darts. She hit 3 and 8. What was her score?

3. Ted's darts hit 4 and 5. What was his score?

4. Mary threw the darts. She hit 6 and 5. What was her score?

This sign always tells us to add → +

Give the answer for each example below.

$$\begin{array}{r} 4 & 9 & 3 & 1 & 2 & 6 & 4 & 1 & 3 & 3 \\ +4 & +2 & +6 & +7 & +2 & +5 & +6 & +4 & +1 & +8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 & 2 & 6 & 5 & 2 & 2 & 7 & 4 & 3 & 4 \\ +3 & +3 & +4 & +2 & +9 & +8 & +3 & +7 & +3 & +2 \\ \hline \end{array}$$

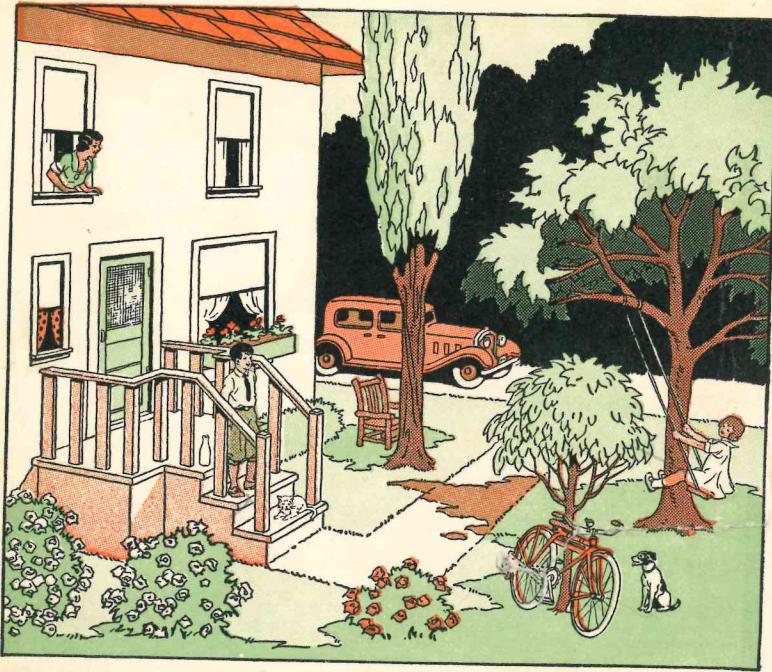
When we add, the answer is called the **sum**. The sum of 3 and 2 is 5.

Give the sum for each example:

$$\begin{array}{r} 6 & 1 & 3 & 7 & 8 & 6 & 5 & 9 & 5 & 1 \\ +2 & +5 & +7 & +4 & +2 & +5 & +5 & +2 & +3 & +8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 & 1 & 2 & 7 & 2 & 6 & 3 & 2 & 4 & 2 \\ +4 & +1 & +5 & +2 & +9 & +3 & +4 & +6 & +5 & +4 \\ \hline \end{array}$$

Now, turn the page. Do "Bobbie's Riddle Helpers." They are fun.



### Bobby's Riddle Helpers

These words helped Bobby answer his riddles:  
longer tallest widest narrowest left

Bobby had to know the meaning of these words to find his birthday presents. If you know what such words mean, they will help you answer these questions about the picture above.

1. Is the bicycle longer than the car?
2. What do you see under the tallest tree?
3. Which window is the widest?

4. Which is the narrowest window?
5. Find the tree under which Betty is swinging.  
Is it as tall as the tree nearest the house?
6. What is on the middle step?
7. Which bush is shorter than the middle one?
8. Which window is just as large as the upper right window?
9. Which bush has the fewest roses?
10. Which rose-bush has more roses, the one on the right or the one in the middle?

Answer these riddles about the picture:

1. There is something on the top step that I like. You will find me under the tree with the lowest branches. What am I? *b*
2. I like to climb the tree with the longest branches. I am on the bottom step. What am I?
3. I take Bobby for rides. I am under the tree with the smallest trunk. What am I?
4. We like both rain and sunshine. Our home is outside the lower right window. What are we?

Make a riddle about the picture. Use one of the words that helped Bobby answer his riddles.

### The Addition Facts of Eleven

9	2	8	3	7	4	6	5
+2	+9	+3	+8	+4	+7	+5	+6
11	11	11	11	11	11	11	11



### Getting Ready for the Party

Betty and Mary are making cookies for Bobbie's birthday party. "We need 10 round cookies to fill a pan," said Betty.

"I have cut out 6 round cookies," said Mary. "How many more shall I cut?"

"6 and how many more make 10?" asked Betty.

"I don't know," said Mary. "I shall subtract to find out." Then she said, "I need 4 more."

"For the star cookies," said Betty, "we need 11 cookies for each pan." How many star cookies has Betty cut out? How many more does she need?

Cut out 11 paper stars. Take away 2 stars from 11 stars. Then take 3 stars from 11 stars. Then take 4, then 5, then 6.

Give the answer for each example below.

$$\begin{array}{r}
 11 & 11 & 11 & 11 & 11 & 11 & 11 & 11 \\
 -8 & -5 & -4 & -9 & -3 & -7 & -2 & -6 \\
 \hline
 & & & 12 & & & &
 \end{array}$$

1. Mother wanted 11 lemons for the party. She had only 5. How many more lemons did she need?

To find **how many more are needed**, we subtract.

2. Mary wrote 11 names on cards. Betty wrote 7 names. Betty wrote how many fewer than Mary?

To find **how many fewer**, we subtract.

3. Mother had 11 eggs in a box. She used 4 for a cake. How many eggs were left in the box?

To find **how many are left**, we subtract.

4. Betty paid 10 cents for green candles and 8 cents for red ones. How much more did she pay for green candles than for red ones?

To find **how much more**, we subtract.

5. How much less did Betty pay for red candles than for green ones?

To find **how much less**, we subtract.

This sign always tells us to subtract → -

**Subtract:**

$$\begin{array}{r}
 11 & 9 & 11 & 11 & 5 & 8 & 11 & 7 & 11 & 8 \\
 -3 & -1 & -2 & -6 & -2 & -6 & -9 & -4 & -8 & -4 \\
 \hline
 & & & & & & & & &
 \end{array}$$

When we subtract, the answer is called the **difference**. Give the difference for each example:

$$\begin{array}{r}
 10 & 11 & 9 & 8 & 7 & 4 & 11 & 8 & 9 & 11 \\
 -9 & -7 & -3 & -1 & -5 & -2 & -5 & -3 & -9 & -4 \\
 \hline
 & & & & & & & & &
 \end{array}$$

## Reading Number Signs

We must learn to watch the signs in number work that tell us whether we should add or subtract.

The sign in example A is the plus sign. It tells us to add. We read example A this way: 5 plus 3 is 8.

A
3
+5
8

Example B shows a new way to write: 5 plus 3 is 8. Look at the sign between the 3 and the 8. It is the equals sign. We may read example B in two ways: 5 plus 3 is 8, or 5 plus 3 equals 8.

B
5 + 3 = 8

Read these examples, and give the answers:

9 plus 2 is \_\_\_\_\_.       $4 + 7 =$        $3 + 6 =$   
 3 plus 8 equals \_\_\_\_\_.       $9 + 2 =$        $2 + 9 =$

Look at the sign in example C. It is the minus sign. This sign tells us to subtract. We read example C this way: 11 minus 2 is 9.

C
11
-2
9

Example D shows a new way to write: 11 minus 7 is 4. We may also read it this way: 11 minus 7 equals 4.

D
11 - 7 = 4

Read these examples, and give the answers:

11 minus 4 is \_\_\_\_\_.       $11 - 9 =$        $11 - 5 =$   
 11 minus 8 equals \_\_\_\_\_.       $6 - 6 =$        $7 - 4 =$   
 9 minus 5 equals \_\_\_\_\_.       $11 - 7 =$        $8 - 8 =$   
 11 minus 2 equals \_\_\_\_\_.       $11 - 4 =$        $10 - 3 =$

## The Doubles

Bobby was in the garden picking blackberries for the birthday party. He was singing.

"2 and 2 are 4," sang Bobby. "Be sure and shut the door.

3 and 3 are 6. The maid picks up the sticks.

4 and 4 are 8. I never stay up late.

5 and 5 are 10," Bobby paused. "Well, only now and then."

"That's as far as I can go," said Bobby. "How much are 6 and 6?"

This is how Bobby found out. He took 6 blackberries in one hand and 6 in the other. Then he counted them all. So he found that 6 and 6 are 12. He did the same for 7 and 7, for 8 and 8, and for 9 and 9.

What did he find out?

6 and 6 are ?      7 and 7 are ?  
 8 and 8 are ?      9 and 9 are ?

1. Write the doubles, using the word "plus."
2. Write them using the sign that means add.
3. What are the answers?

14 - 7 =	16 minus 8 equals	12 - 6 =
8 - 8 =	9 plus 9 equals	18 - 9 =
18 - 9 =	7 - 8 =	16 - 8 =
11 - 6 =	10 - 3 =	12 - 6 =
14 - 7 =	16 - 8 =	9 - 6 =
11 - 4 =	10 - 3 =	14 - 7 =
18 - 9 =	16 - 8 =	14 - 7 =
11 - 6 =	10 - 3 =	14 - 7 =

## The Birthday Party

The first game the children played at Bobbie's birthday party was a peanut hunt.

"The peanuts are all hidden in this room. The one who finds the most peanuts will get a prize," said Bobby.

Here are some problems about the peanut hunt. In each problem there are some numbers and a question. Sometimes we add the numbers to find the answers. Sometimes we subtract.

Read problem 1.

1. John found 6 peanuts, and Joe found 6. How many peanuts did they both find?

What is the question in this problem?

Should we add or subtract to find the answer?

What numbers do we use?

What is the answer to this problem?

Read problem 2.

2. Nell found 6 peanuts, and Jack found 3. How many more peanuts did Nell find than Jack?

The question in this problem is \_\_\_\_.

To find the answer we should \_\_\_\_.

The numbers we should use are \_\_\_\_ and \_\_\_\_.

The answer is \_\_\_\_ peanuts.

After you read each of the problems on the next page, ask yourself the four questions that are printed after problem 1.

3. Sue found 4 peanuts, and Ann found 10. How many fewer peanuts did Sue find than Ann?

4. Frank found 11 peanuts. He lost 4 of them. How many peanuts did he have left?

5. Sally found 7 peanuts on the top book-shelf, and 4 on the bottom shelf. How many peanuts did she find on both shelves?

6. Alice found 14 peanuts, and John found 7. How many more peanuts did John find than Alice?

Who won the prize at Bobby's party?

What other games do you think that the children played at the party? Make three problems about them. Answer each problem that you make.

## Learning About Twelve

What numbers make 12? You already know that  $6+6=12$  and  $12-6=6$ .

Cut 12 strips of paper. Make each strip 3 inches long and 1 inch wide.

Use them to find the answers to these questions:

1. What number goes with 9 to make 12? *3*

2. What number goes with 8 to make 12? *4*

3. 12 is how many more than 7? *5*

4. How many must be added to 3 to make 12? *9*

5. 5 and how many more make 12? *7*

6. What number goes with 4 to make 12? *8*

You will find the answers at the top of the next page. See if you are right.

$$\begin{array}{r}
 7 & 8 & 9 & 12 & 12 & 12 \\
 +5 & +4 & +3 & -3 & -4 & -5 \\
 \hline
 12 & 12 & 12 & 9 & 8 & 7
 \end{array}$$

Copy these examples, and write the answers.

$$\begin{array}{r}
 5 & 4 & 3 & 12 & 12 & 12 \\
 +7 & +8 & +9 & -9 & -8 & -5 \\
 \hline
 & & & & &
 \end{array}$$

Cover the answers above with a piece of paper while you are working these problems:

- Mary saw 12 robins, and Betty saw 7. How many more did Mary see than Betty?
- Bobby counted 12 sparrows in the apple tree. 9 flew away. How many were left?
- There were 8 sparrows on the ground, and 4 robins on the fence. How many birds were there altogether?

Find the answers:

$$\begin{array}{r}
 5 & 3 & 4 & 2 & 6 & 7 & 6 & 9 \\
 3 & 1 & 5 & 6 & 4 & 2 & 3 & 4 \\
 4 & 6 & 2 & 3 & 2 & 5 & 3 & 5 \\
 \hline
 & & & & & & &
 \end{array}$$

Find the sums:

$$\begin{array}{r}
 3 & 8 & 9 & 3 & 4 & 6 & 4 & 7 \\
 4 & 3 & 2 & 4 & 3 & 3 & 5 & 2 \\
 3 & 3 & 1 & 2 & 1 & 1 & 3 & 2 \\
 2 & 2 & 6 & 3 & 4 & 2 & 2 & 3 \\
 \hline
 & & & & & & &
 \end{array}$$

### Cooking Eggs

Mother brought home a box of eggs from the store.

"How many eggs are in the box?" said Mary.

"There are a dozen eggs in the box," said Mother.  
"Count them and see if that is right."

Mary counted the eggs. She counted 12.

"There are 12 eggs in the box," said Mary. "That is a dozen."

"Put half a dozen eggs in a bowl, Mary," said Mother.

- How many eggs did Mary put in the bowl?
- How many eggs were left in the box?
- How many eggs are half a dozen?
- Mother boiled 1 egg for Bobby, 1 for Betty, and 1 for Mary. How many eggs did she boil?
- How many eggs were left?
- She fried 2 eggs for father. How many more eggs were boiled than were fried?
- How many eggs were left not cooked?
- "I shall poach an egg for myself," said Mother. How many eggs did Mother cook altogether?
- How many eggs were not cooked?
- Write the sums:

$$\begin{array}{r}
 7 & 6 & 4 & 9 & 7 & 8 & 9 & 8 \\
 +4 & +5 & +8 & +3 & +5 & +3 & +2 & +4 \\
 \hline
 & & & & & & &
 \end{array}$$

## Thirteen

$$9 + 4 = 13$$

$$8 + 5 = 13$$

$$7 + 6 = 13$$

In the upper left corner of this page are three pairs of numbers that make 13. Study them until you know them.

1. Which numbers in these pairs are odd? Which are even?

If you know the facts in the upper left corner of this page, you can easily learn the facts at the right.

1. Write all the facts of 13, using the words *plus* and *equals*.

2. Write them all as sums. (See page 18.)

3. Write them using the signs + and =.

Here are the *subtraction* facts of 13. Study them until you know them.

$$\begin{array}{r} 13 \\ -4 \\ \hline 9 \end{array} \quad \begin{array}{r} 13 \\ -9 \\ \hline 4 \end{array} \quad \begin{array}{r} 13 \\ -5 \\ \hline 8 \end{array} \quad \begin{array}{r} 13 \\ -8 \\ \hline 5 \end{array} \quad \begin{array}{r} 13 \\ -6 \\ \hline 7 \end{array} \quad \begin{array}{r} 13 \\ -7 \\ \hline 6 \end{array}$$

4. Write the subtraction facts, using the words "minus" and "equals." (See page 14.)

5. Write the subtraction facts, using the signs for *minus* and *equals*.

$$\begin{array}{l} 4 + 9 = 13 \\ 5 + 8 = 13 \\ 6 + 7 = 13 \end{array}$$

## Gathering Eggs

John lives on a farm. One day he found 7 eggs in one nest, and 7 eggs in another.

"I have 14 eggs," said John; "7 and 7 are 14."

On his way to the house, John took the eggs out of the basket and placed them gently on the grass. 5 eggs were brown, and 9 eggs were white.

"There are 14 eggs," said John; "5 and 9 are 14."

"8 eggs are large, and 6 eggs are small," said John, "so 8 and 6 are 14."

Here are the facts John learned about 14:

8	6	9	5	He knew:	7
$+6$	$+8$	$+5$	$+9$		$+7$
$\frac{14}{14}$	$\frac{14}{14}$	$\frac{14}{14}$	$\frac{14}{14}$		$\frac{14}{14}$

1. Write the addition facts of 14; use the signs + and =.
2. How many more than a dozen is 14?
3. 14 is how many more than half a dozen?
4. John put 5 eggs in the basket. How many were left on the ground?
5. When he had put 7 eggs in the basket, how many were left on the ground?
6. How many were in the basket when only 6 were left on the ground?
7. Write the answers:  $14 - 7$     $14 - 8$     $14 - 9$     $14 - 5$     $14 - 6$

Find the sums:

9	6	8	5	6	7	8	4
+4	+5	+3	+9	+6	+5	+6	+9
<hr/>							
8	7	7	5	3	5	6	4
3	2	1	6	4	4	1	5
-	-	-	-	-	-	-	-
2	4	6	3	5	3	7	3
<hr/>							
6	7	1	5	4	5	9	8
1	1	2	1	5	1	2	5
4	3	3	3	3	2	4	2
3	2	6	4	2	6	3	1
<hr/>							

### Learning New Facts

6	7
+9	+8
?	?

Can you tell the sums of the numbers at the left of the page? If not, find out the answers by using blocks.

When you know the two facts on the left, it is easy to learn the two facts on the right.

9	8
+6	+7
?	?

1. Is your answer an even or an odd number?
2. Find the answers:      15      15      15      15

$$\begin{array}{r} -9 \\ \hline \end{array}$$

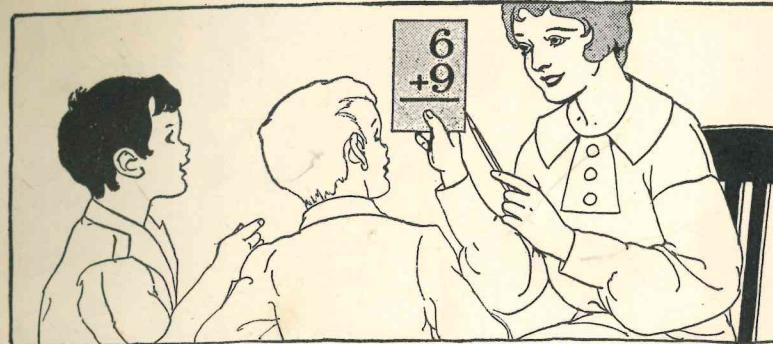
$$\begin{array}{r} -8 \\ \hline \end{array}$$

$$\begin{array}{r} -6 \\ \hline \end{array}$$

$$\begin{array}{r} -7 \\ \hline \end{array}$$

Find the difference:

68	79	38	45	89	56	95	88
25	64	13	21	27	42	71	17
<hr/>							



### Number Cards

Number cards help us to learn our number facts.

Cut 8 cards like the one the teacher is holding in the picture. On one side, print the numbers, as the teacher has done on her card. Do not print the answer.

On the other side of the same card, print the numbers *and* the answer.

Make a card like this for each addition fact of 15, and one for each subtraction fact of 15.

6	+	9	=	15
---	---	---	---	----

Now, pile the cards one on top of another, so that the side with the answer is *down*, and the side without the answer is *up*.

Look at the side without the answer. Say the answer to yourself. Now turn the card over, and look at the answer. See if you were right.

Do this with each card. Now make number cards for the facts of 11, 12, 13, and 14.



### On The Farm

On the farm where Andy lives, there are 16 horses to be fed. Andy and Alice fed 7 horses. How many horses did their father feed?

To answer this question, we need to know what numbers make 16. What pair of numbers do you know that make 16? Now learn the others.

$$\begin{array}{r} 7 & 9 \\ +9 & +7 \\ \hline 16 & 16 \end{array} \quad \begin{array}{r} 16 & 16 \\ -7 & -9 \\ \hline 9 & 7 \end{array}$$

Write the facts of 16 using the signs. Write them using the words *plus* and *minus*.

Make number cards for the facts of 16. You will need to make 6 cards.

Alice gave one horse 9 cobs of corn, and the other one 8 cobs. How many cobs did she give to both horses?

Find the answer among the facts on the right.

Learn the facts of 17. Now do the things that you did with the facts of 16.

$$\begin{array}{r} 8 & 9 \\ +9 & +8 \\ \hline 17 & 17 \end{array} \quad \begin{array}{r} 17 & 17 \\ -8 & -9 \\ \hline 9 & 8 \end{array}$$

### Problems About the Farm

Before you try these problems, turn back to page 16. Read the questions after problem 1 on that page. After you have read each problem below, ask yourself those questions.

1. Alice carried 9 ears of corn to give to the horse, and Andy carried 7 ears. How many ears of corn did both children carry?
2. Father gave 7 ears of corn to one horse, and 6 ears to another. How many ears of corn did he give to both horses?
3. Andy's father had 4 white horses, 5 brown ones, and 7 black ones. How many horses had he altogether?
4. Alice saw 17 turkey gobblers and 9 turkey hens. How many more gobblers than hens did she see?
5. In one pasture there were 7 black-and-white cows and 4 red cows. How many cows were there?
6. Andy's father had 15 white pigs and 9 black pigs. How many more white pigs than black ones had he?
7. One night Alice and Andy found 3 of the 11 cows. How many more cows were there to find?
8. 6 of the eleven cows had no horns. How many cows had horns?
9. Alice's mother had 17 turkey gobblers. She sold 8 of them. How many had she left?

## Learning through Practice

One day Alice, Betty, and Andy were playing with Bobby's dart game.

"I can hit a number nearly every time," said Andy, "but I make mistakes in adding my scores."

"It's the other way with me," said Alice. "I can add scores, but I can't hit the board."

"Both of you need practice," Betty's father told them. "Alice should practise throwing the darts. Andy should practise adding the scores. Then both of you could play the game better."

"All right, Alice," said Andy. "You take two darts and throw them. I'll write the numbers down, and add them when you are through."

Alice threw the darts until she was tired.

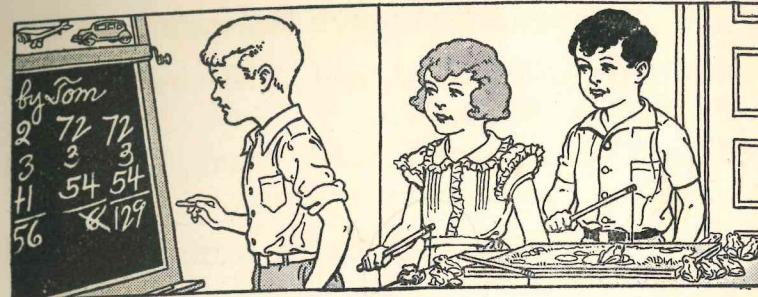
Here are the numbers Andy wrote. Add them.

$$\begin{array}{r} 4 & 8 & 9 & 8 & 6 & 5 & 9 & 3 & 9 \\ +7 & +8 & +5 & +4 & +9 & +8 & +7 & +8 & +9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 & 8 & 7 & 8 & 6 & 7 & 9 & 4 & 8 \\ +5 & +9 & +6 & +7 & +5 & +7 & +3 & +9 & +3 \\ \hline \end{array}$$

$$\begin{array}{r} 9 & 6 & 5 & 7 & 8 & 2 & 8 & 7 & 9 \\ +8 & +6 & +9 & +8 & +5 & +9 & +6 & +9 & +4 \\ \hline \end{array}$$

$$\begin{array}{r} 6 & 9 & 5 & 9 & 7 & 3 & 6 & 4 & 5 \\ +8 & +6 & +7 & +2 & +4 & +9 & +7 & +8 & +6 \\ \hline 26 \end{array}$$



## The Frog-Pond Game

Bobby, Betty, and Tom are playing the Frog-Pond game. To play the game, you fish with a stick for one minute. Each frog has a number, but you cannot see the number until you catch the frog.

To get your scores, you add the numbers on the frogs you catch.

Look at the picture. Tom did not write his numbers in straight columns. He had to write his numbers again before he could add. He wrote 129 for his score. Is 129 correct?

Betty's scores are at the top of the next page. Copy them, and add them. Copy the right numbers, and keep your columns straight.

**Notes to the Teacher.**—(1) At this point the teacher should make a thorough review of the extensions having their source in the basic combinations up to 10. (2) Teach also how to deal with zero in column addition. Since zero means "not any" or nothing, it can neither increase nor decrease a number with which it is combined. In column addition, it is used solely to keep numbers in their places. If pupils are taught to ignore the zero in column addition, special attention to the zero "facts" will be unnecessary.

## Betty's Scores

47	4	20	1	62	33	0	45
20	51	42	20	14	51	58	4
32	64	13	78	53	5	71	20

## Subtraction with Large Numbers

Bobby's score was 76, and Tom's score was 129. How much less was Bobby's score than Tom's?

Tom's score	129
Bobby's score	56
Difference	73

To find the answer, we must subtract. The example at the left shows how we do it.

The difference between 6 and 9 is 3. Write 3 under the 6. Subtract 5 from 12. The difference is 7. Write 7 under the 5.

Find the answers for these examples:

$$\begin{array}{r} 74 & 97 & 148 & 57 & 128 & 69 & 159 & 172 \\ -23 & -67 & -55 & -22 & -37 & -67 & -93 & -80 \end{array}$$

The star in each example below shows that a number is missing. When you read each example, say the number that should be where the star is.

$$\begin{array}{r} \star & 3 & \star & 7 & \star & 9 & 4 & \star & 7 \\ +6 & +\star & +6 & +3 & +\star & +8 & +\star & +3 & +\star \\ \hline 8 & 10 & 15 & 11 & 14 & 13 & 17 & 13 & 12 & 16 \end{array}$$

## Can You Open the Door?

This page is the door to a new chapter. You can open the door if you can do the work below.



- When we add, the answer is called the \_\_\_\_\_.
- Write the sign that is called "plus."
- Write the sign that is called "minus."
- There are \_\_\_\_\_ months in a year.
- March is the \_\_\_\_\_ month of the year.
- The second day of the week is \_\_\_\_\_.
- The fifth day of the week is \_\_\_\_\_.

Find the answer for each example below.

1.	2.	3.	4.	5.	6.	7.
98	126	147	159	39	63	136
-74	-92	-84	-84	-35	-51	-50
8.	9.	10.	11.	12.	13.	14.
5		10	2		7	
4	166	31	9	85	0	112
9	-95	48	6	-53	7	-42
15.	16.	17.	18.	19.	20.	21.
6		73	1	4		41
8	157	46	7	9	129	51
3	-76	20	9	5	-83	23

CHAPTER 2

SCHOOL DAYS AND AUTUMN FUN



The First Day of School

When Betty went to her new room, she saw 16 girls and 9 boys in the room. How many children did she see?

To find the answer, we must add 16 and 9. You know that 6 and 9 are 15. How much are 16 and 9?

Bobby found 14 boys and 7 girls in his new room. How many children were there altogether?

What number is missing in each example below?

$$\begin{array}{r}
 7 & 6 & 5 & 8 & 3 & 7 & 4 \\
 +14 & +29 & +15 & +16 & +28 & +15 & +38 \\
 \hline
 21 & 35 & 10 & 24 & 31 & 32 & 2
 \end{array}$$

**Note to the Teacher.**—As the children are working this and the next few pages, they must be taught the extensions which have their origin in the basic combinations of the numbers 11 to 18. Give the necessary drill in all forms of higher decade addition.

Practice in Addition

1. Give the sums for the examples below.

28 and 7	26 and 4	19 and 5	24 and 9
19 and 6	38 and 2	27 and 2	17 and 6
18 and 4	12 and 9	46 and 8	28 and 9
25 and 5	16 and 5	19 and 7	34 and 7

19 and 1	26 and 7	12 and 8	39 and 2
18 and 7	15 and 6	25 and 9	15 and 4
16 and 3	17 and 7	13 and 7	26 and 9
37 and 9	29 and 3	14 and 6	29 and 5

13 + 4	23 + 8	17 + 3	15 + 8	19 + 9
27 + 5	33 + 5	25 + 8	49 + 4	19 + 3
13 + 8	16 + 4	11 + 9	24 + 8	22 + 9
18 + 9	29 + 7	14 + 2	18 + 6	38 + 5
27 + 4	18 + 7	47 + 8	17 + 9	16 + 9
25 + 7	46 + 9	10 + 6	18 + 8	26 + 6

2. Find the answer for each of these examples:

6	3	8	9	4	9	6	7	7	9
8	6	9	8	9	8	6	5	8	4
8	5	7	3	5	7	8	7	9	8

More Practice for Those Who Need It

6	8	9	7	5	8	7	8	8	0
4	6	9	8	9	3	9	5	9	8
7	9	8	6	9	7	6	9	4	5

## In the Schoolroom

Before you try these problems, turn back to page 16, and read the questions printed after problem 1.

1. There are 29 desks and 16 small chairs in Miss Hunter's room. How many more desks than chairs are there?
2. 7 girls sit in the first row, 6 boys sit in the second row, 8 pupils sit in the third row. How many pupils sit in the three rows?
3. On the blackboard there are three rows of stars. There are 8 gold stars, 9 silver stars, and 6 blue stars. How many stars are there altogether?
4. Miss Hunter has on her desk 37 spellers and 24 readers. How many more readers will Miss Hunter need in order to have as many readers as she has spellers?
5. Miss Hunter gave out 32 spellers. How many spellers were left on her desk? (Read problem 4 to find out how many spellers she had on her desk at first.)
6. Bobbie gave out 7 rulers, 9 pencils, 6 pens, and 8 boxes of crayons. How many things did Bobbie give out?
7. Miss Hunter had 62 black pencils and 45 red pencils. How many pencils had she altogether?
8. Miss Hunter gave out 30 black pencils. How many black pencils had she left?

17

9. Betty gave out 5 sheets of blue paper, 8 sheets of red paper, 4 sheets of white paper, and 3 sheets of green paper. How many sheets of paper did she give out altogether?

10. There were 47 crayon-boxes on the table. Some were full, and 23 were empty. How many boxes were full?

11. Miss Hunter put 34 pencils in the drawer, and 45 pencils in the cupboard. How many pencils did she put away?

Find the sum for each of these examples:

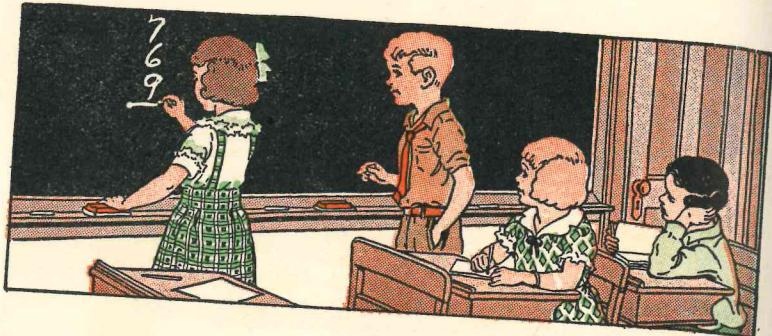
4	5	9	8	7	8	9	8	9	3
7	8	6	5	8	3	3	2	7	8
3	2	4	4	3	9	4	6	9	7
5	6	3	9	6	2	7	9	3	7
3	9	8	4	2	6	3	5	7	3
5	8	7	8	8	4	5	8	4	8
2	6	6	3	9	3	9	4	5	5
4	7	5	4	6	6	4	7	6	9

Subtract:

137	178	97	64	185	327	392
23	65	32	51	43	116	141

Find the sums:

18 + 2	17 + 6	15 + 7	27 + 3	39 + 6
14 + 7	37 + 7	29 + 1	12 + 4	18 + 4
25 + 2	19 + 2	18 + 8	29 + 8	19 + 7
19 + 5	26 + 8	48 + 3	16 + 7	26 + 5



### Who Is Missing?

One morning Jane and Joe were doing number work on the blackboard. Miss Fisher asked Jane to tell her how many girls there were in the room.

"I see 7 in the library corner, 6 at the fish-bowl, and 9 at their desks. Now I'll add," said Jane, as she wrote 7, 6, and 9 in a column.

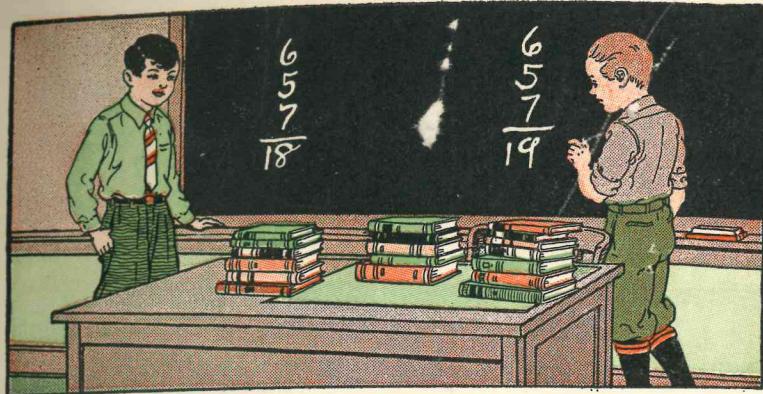
"The answer is 22," she said.

"Someone must be missing," said Joe. "There should be 23 girls in the room."

Jane began to count the girls again. Some of the other children counted the girls, too. All at once Rose began to laugh. "This is a good joke on you, Jane," she said. "You forgot to count yourself."

Find the sums:

$$\begin{array}{r}
 9 & 8 & 9 & 2 & 6 & 6 & 6 & 3 & 7 & 8 \\
 6 & 9 & 7 & 8 & 8 & 6 & 7 & 9 & 9 & 9 \\
 8 & 5 & 3 & 4 & 8 & 5 & 9 & 9 & 4 & 4 \\
 \hline
 \end{array}$$



### Who Made the Mistake?

One day Miss Fisher told the children that they could play a counting game.

She sent Bobby and Sam to the blackboard.

"I shall put three piles of books on my desk," she said. "Count the books in each pile. Write the numbers you get when you count. Then find the sum. The boy who gets the right answer first wins the game."

Then Miss Fisher put three piles of books on her desk. Bobby and Sam counted the books in each pile and wrote the numbers on the board.

They wrote their sums at the same time. Bobby wrote 18 for his sum. Sam wrote 19.

"It's a tie!" said Alice.

"No," said Miss Fisher. "One of the boys made a mistake. Check your work, boys."

The boys got their answers by adding up the columns. They added down the columns to check their work.

Sam checked his work like this →  
He thought, "6 plus 5 is 11. 11 plus 7 is 18." He wrote 18 below the 19.

Why did Sam cross out the 19?

Sam added up the column again and got 18 for the sum. He could not be sure which answer was right until he added up and added down, and got the same answer adding both ways.

Find each sum. Check each sum by adding down the column. Add up the column, and add down the column, until you get the same sum both ways.

6	9	8	7	6	5	8	3	1	9
4	6	5	5	6	7	2	9	9	8
8	7	6	9	4	8	9	5	7	6
	<u>—</u>								
8	4	6	7	8	3	5	9	4	7
6	9	9	8	3	8	8	7	7	4
5	9	8	4	7	2	8	3	6	9
	<u>—</u>								

Find the examples with wrong answers below. Then find the right answers.

$$\begin{array}{r} 85 \\ -62 \\ \hline 23 \end{array} \quad \begin{array}{r} 72 \\ +24 \\ \hline 56 \end{array} \quad \begin{array}{r} 104 \\ -32 \\ \hline 72 \end{array} \quad \begin{array}{r} 138 \\ -60 \\ \hline 70 \end{array} \quad \begin{array}{r} 35 \\ +84 \\ \hline 129 \end{array} \quad \begin{array}{r} 76 \\ -36 \\ \hline 40 \end{array} \quad \begin{array}{r} 159 \\ -64 \\ \hline 85 \end{array} \quad \begin{array}{r} 116 \\ -82 \\ \hline 198 \end{array}$$

$$\begin{array}{r} 6 \\ 5 \\ 7 \\ + \\ 18 \end{array}$$

## Banking Day

Every Tuesday is banking day in Bobbie's school. Here are some problems about putting money in the Penny Bank.

1. Bobby had 74 cents in the bank. He put in 25 cents. How much has he in the bank now?
2. Jane has 51 cents in the bank. How much must she put in so that she will have 68 cents?
3. On banking day, 5 children in each row brought money to put in the bank.

1ST Row	2ND Row	3RD Row	4TH Row	5TH Row
5¢	6¢	3¢	1¢	6¢
9¢	8¢	2¢	2¢	2¢
7¢	2¢	6¢	4¢	9¢
8¢	5¢	4¢	3¢	8¢
5¢	1¢	7¢	1¢	5¢

What is the sum brought by the children in each row? Check your work.

4. How much did all the children bring? (Add all the answers in problem 3.) Check your work.
5. The answer to problem 4 is how much more than a dollar?
6. Mary had 85 cents in the bank. She took out 35 cents. How much had she left in the bank?
7. John has 23 cents in the bank, and in his pocket he has 15 cents which he is going to put in the bank. How much will he have in the bank then?

$$\begin{array}{r} 13 \\ 21 \\ \hline 46 \end{array} \quad \begin{array}{r} 13 \\ -4 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ 6 \\ \hline 32 \end{array} \quad \begin{array}{r} 38 \\ -13 \\ \hline 25 \end{array}$$

$$\begin{array}{r} B \\ \begin{array}{r} 13 & 13 & 10 & 38 \\ 21 & -4 & 32 & -13 \\ \hline 12 & & 6 & \\ 46 & & 48 & 25 \end{array} \end{array}$$

$$\begin{array}{r} 13 \\ 21 \\ \hline 46 \end{array} \quad \begin{array}{r} 13 \\ -4 \\ \hline 9 \end{array} \quad \begin{array}{r} 10 \\ 32 \\ \hline 6 \end{array} \quad \begin{array}{r} 38 \\ -13 \\ \hline 25 \end{array}$$

$$\begin{array}{r} 13 \\ 21 \\ \hline 12 \\ 46 \end{array} \quad \begin{array}{r} 10 \\ 32 \\ -4 \\ \hline 9 \end{array} \quad \begin{array}{r} 38 \\ -13 \\ \hline 25 \end{array}$$

## Which Paper Is Neatest?

At the top of this page are four papers that Miss Fisher showed the children one morning. She had erased the pupils' names and written letters on the papers instead.

"Which paper do you like best?" she asked

Which paper do you think the children picked?

Copy the examples on paper D. See if you can make your work as neat as the work on paper D.

Copy neatly the examples below, and work them

34		9	7		22	32	
15	78	8	6	136	12	16	103
20	<u>-23</u>	<u>4</u>	<u>6</u>	<u>-53</u>	13	21	-22



## The Circus

When Frank was moving away, his friends had a circus to make money to buy a present for him. When the circus was over, Bobby asked, "How much money did we get, Joe?"

"I have 17 cents, and Jack has 26," said Joe.

"Why don't you add 17 and 26?" asked Bobby.

"We tried to, but we couldn't," said Jack.

"Let's put all the pennies together and count them," said Joe, as he took Jack's pennies.

"We have 43 cents to buy the present for Frank," said Joe.

When the boys went back to school the next day, they asked Miss Fisher to show them how to add big numbers like 17 and 26.

"I see what your trouble is," said Miss Fisher.  
"You have to learn to carry."

"Carry?" asked Bobby. "What does that mean?"

"I shall tell you a story that will help to explain that," said Miss Fisher.

## Miss Fisher's Story

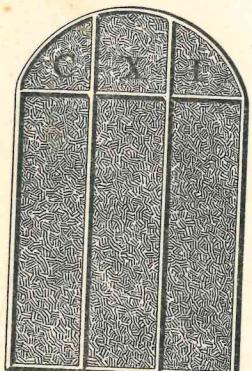
Julius was a boy who lived a long time ago in Rome. On the south side of his father's house there was a large grape-vine. Julius counted 26 bunches of grapes on this vine. On the west side of the house there was another grape-vine, and on this vine Julius counted 18 bunches of grapes.

Julius wanted to know how many bunches of grapes there were on both vines. He knew that he must add 26 and 18 to find out. To add these two numbers, he used his counting-board.

Picture 1 shows the counting-board Julius used. It is divided into three columns. At the top of the column on the right is the letter I. That means that it is for the *ones* or *units*.

At the top of the middle column is the letter X. That means that this column is for the *tens*. At the top of the left column is the letter C. That was the Roman way of writing 100. The left column is for hundreds.

Julius used small pieces of bone for counters. Picture 2 on the opposite page shows how Julius placed his counters on the board so that he could add the numbers.



Picture 1

He put 2 counters in the tens column. (2 tens are 20.) Then he put 6 counters in the units column. ( $20 + 6 = 26$ .)

Under that he made 18 by putting 1 counter in the tens column and 8 counters in the units column.

In the units column there are  $8 + 6 = 14$  counters. 14 is 1 ten and 4 more. So Julius took 10 counters out of the *units* column. He carried 1 counter to the tens column instead.

How many counters were left in the units place? How many counters are in the tens place? What is the answer to Julius's questions? See picture 3.

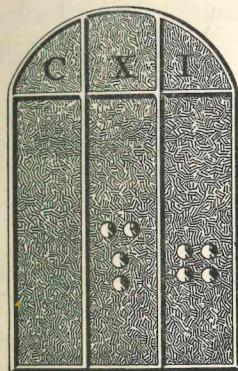
1. Make a counting-board like the one Julius used. You will need a piece of stiff paper or cardboard.

Buttons may be used for counters.

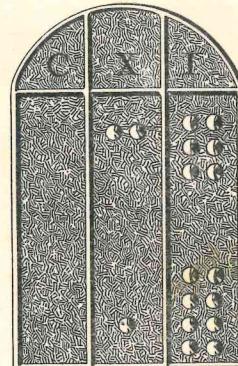
2. On your counting-board add these numbers:

14 and 27    38 and 15    17 and 19

3. You can add 3 numbers on your counting-board as easily as you can add 2 numbers. Add:  
13, 25, 24    14, 23, 35    16, 11, 24



Picture 3



Picture 2

$$34 + 16 + 12 \quad 23 + 12 + 35$$



### Getting Ready for Hallowe'en

The pupils in Miss Hunter's class decorated their room for the Hallowe'en party. They made:

35 masks	18 clown hats	28 bats
43 paper cats	25 jack-o'-lanterns	17 witches

They cut all these things out of coloured paper.

1. They used orange paper to make the jack-o'-lanterns, masks, and clown hats. How many pieces of orange paper did they use?

2. They cut the witches, cats, and bats out of black paper. How many pieces of black paper did they use?

3. How many pieces of paper did they use altogether?

4. They pasted 13 jack-o'-lanterns on the blackboard, and the rest on the windows. How many did they paste on the windows?

5. How many more clown hats were needed so that a clown hat could be put on each jack-o'-lantern?

Copy the examples below, and add.

34	19	16	19	14	34	36	64
19	35	23	39	19	28	8	9
27	8	4	18	28	37	29	5
18	19	29	7	16	15	5	36

### Shopping for Mother

Bobby went to the store to buy some things for his mother. He bought a pound of butter for 38 cents, and half a pound of coffee for 27 cents.

"I can't add that up," said Bobby.

Can you? Can you add it the way Julius, the Roman boy, would have added?

The store-keeper added them in this way. He wrote the numbers in a column. 38 cents means 3 dimes and 8 cents. 27 cents means 2 dimes and 7 cents.

7 cents and 8 cents are 15 cents. 15 cents is 1 dime and 5 cents.

Write the 5 under the 7. Remember the 1 dime, and add it to the numbers that mean dimes. Say 1 and 2 are 3; 3 and 3 are 6.

Put down the 6 under the 2. 65¢ is our answer. 65¢ is the same as 6 dimes and 5 cents.

Add the following:

38¢	29¢	56¢	18¢	45¢	34¢
18¢	34¢	35¢	17¢	28¢	17¢

Copy these examples, and add:

31¢	43¢	25¢	18¢	67¢	34¢
29¢	9¢	16¢	12¢	14¢	4¢
16¢	30¢	13¢	15¢	13¢	16¢

Note to the Teacher.—Further explanation of "carrying" will be required and should be given at this point, together with suitable practice.

## Giving a Play

The pupils in Tom's room gave a play. These problems tell about it. Find the answers.

Remember to use the questions on page 16.

1. There are 35 children in Tom's room. 22 were in the play. How many were not in the play?

2. The children gave their play on two days. 11 people came to see it on Monday, and 34 on Tuesday. How many people in all came to see it?

3. There were 14 girls and 8 boys in the play. How many more girls than boys were in the play?

4. The girls used 7 rolls of red paper, 9 rolls of blue paper, and 5 rolls of yellow paper for making dresses. How many rolls of paper did they use?

5. The boys made a large table for the play. They used 21 wide boards and 25 narrow boards. How many boards of both kinds did they use?

6. The boys spent forty-three cents for the play. The girls spent sixty-seven cents. How much less did the boys spend than the girls?

7. The children used twenty-four paper cups for the play the first day and twenty-two paper cups the second day. How many paper cups did they use for the play on both days?

Find the difference for each example below.

$$\begin{array}{r} 689 \\ - 234 \\ \hline 44 \end{array}$$
  
$$\begin{array}{r} 136 \\ - 92 \\ \hline 45 \end{array}$$
  
$$\begin{array}{r} 397 \\ - 187 \\ \hline 83 \end{array}$$
  
$$\begin{array}{r} 176 \\ - 90 \\ \hline 80 \end{array}$$

## Mr. Fair Makes a Mistake

"What do you want to-day, Mary?" asked Mr. Fair.

"Give me 5 pounds of sugar, 3 cans of tomatoes, and a dozen eggs," said Mary.

Mr. Fair got them for her.

"Sugar, 25 cents; tomatoes, 39 cents; eggs, 28 cents," he said, as he wrote the numbers on an empty bag. "They will cost you 72 cents."

"Is that all? Mother told me the things would cost more than that," said Mary.

"Maybe I should check my work," said Mr. Fair. "I added up; so this time I shall add down."

After Mr. Fair added down the column, he said, "Now I get 92¢. Which is right, 72¢ or 92¢?"

"Add up the column again to see," said Mary.

"92 cents is right," he said. "I forgot to carry the 2. It pays to check your work."

Below are some addition examples with answers. Copy each example, and check it. If there are any mistakes, find the correct answers.

46	58	82	75	26	43
57	5	46	18	49	9
23	29	91	84	7	59
126	72	219	177	92	112



Add each example below. Check your work by adding down. If you do not get the same answer both times, you have made a mistake. If you make a mistake, add up again.

	38	16	9		36		
14	16	7	21	4	7	79	63
27	9	34	6	58	91	15	47
33	17	21	14	29	16	28	68
	<u>  </u>						
	8		9	42		75	
27	87	50	81	29	6	21	9
8	69	5	64	79	7	17	38
46	2	70	51	7	43	24	57
	<u>  </u>						

### Quick Drill

Practise these examples until you can give the answers quickly without making mistakes.

	A	B	C	D	E	F
1.	10 - 6	31 + 9	11 - 5	28 - 1	5 + 4 + 7	17 - 9
2.	6 + 3 + 9	35 - 1	19 + 2	10 - 4	14 - 9	8 + 8 + 4
3.	13 - 4	5 + 9 + 6	12 - 3	28 + 2	17 - 6	19 + 4
4.	14 - 2	10 - 2	8 + 9 + 5	11 - 3	33 + 6	4 - 1
5.	26 + 6	11 - 9	8 - 3	9 + 6 + 6	12 - 7	10 - 7
6.	7 + 6 + 5	27 + 4	17 - 8	15 - 9	34 + 5	11 - 7



### Playing House

One day Sue and her friends played house.

1. Ann washed 5 doll dresses, Sue washed 8, Daisy washed 4, and Molly washed 6. How many doll dresses did all four girls wash?

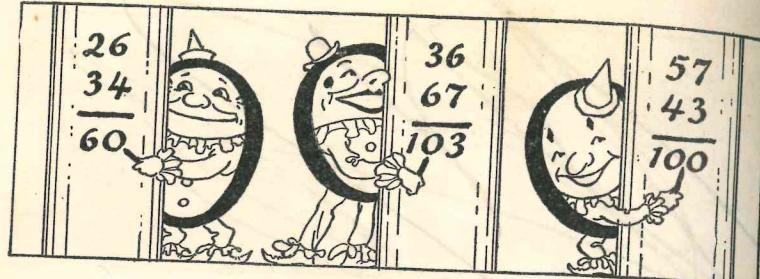
2. Daisy's doll clothes-line is 45 inches long. Molly's is 68 inches long. How many inches longer is Molly's clothes-line than Daisy's?

3. Daisy kept her clothes-pins in a basket. After she had used 32 of them, she had 19 left in the basket. How many clothes-pins did Daisy have?

4. While she was dressing her doll, Molly broke a string of 114 beads. She found 92 of the beads. How many beads did Molly not find?

5. Sue had a quilt for her doll's bed. The pieces in the quilt were of three colours. There were 20 white, 18 pink, and 28 green pieces. How many pieces were there in the quilt?

6. Ann showed the girls the doll dress and hat she had bought. Together they cost 36¢. The hat cost 12¢. How much did the dress cost?



## **Zero the Clown**

"There is a clown among the numbers," said Miss Fisher one day. "His name is zero. You cannot add well unless you know his tricks."

Miss Fisher showed the children some addition examples with zero tricks.

**Trick 1.** Copy these numbers in a column, and add: 33, 21, 6. What is the sum for the units column? Write the zero. What have we to carry? What is the sum for the tens column?

**Trick 2.** Copy and add these numbers: 24, 35, 48. Find the zero trick.

**Trick 3.** Add these numbers: 51, 85, 64. What is the zero trick?

Add the examples below. Watch out for zeros in the answers. Check your work.

24	32	47	25	16		52	
51	5	6	70	37	54	31	33
3	40	15	49	9	62	2	21
<u>32</u>	<u>23</u>	<u>34</u>	<u>57</u>	<u>28</u>	<u>24</u>	<u>24</u>	<u>36</u>

1. Read each line and say the missing figures:

392 means — hundreds, — tens, and — ones.

750 means — hundreds, — tens, and — ones.

104 means — hundred, — tens, and — ones.

85 means — hundreds, — tens, and — ones.

2. Say the number that means:

- 5 hundreds, 7 tens, and 0 ones.
- 4 hundreds, 0 tens, and 3 ones.
- 6 tens and 9 ones.
- eight hundreds, one ten, and five ones.

3. Write each of these numbers in figures:

ninety-eight	three hundred forty-two
four hundred fifty	nine hundred sixty-one
five hundred four	three hundred seventeen

What figures are in the ones column in example A?

What figures are in the tens column?  
The 4, the 3, and the 7 are all in the  
hundreds column.

Look at example B.

The 3 is in the ones column.

The 5 is in the \_\_\_\_\_ column.

The 0 is in the \_\_\_\_\_ column.

The 4 is in the \_\_\_\_\_ column.

Copy example B. and add.

What figure is in the hundreds column in your answer?

$$\begin{array}{r}
 A \\
 456 \\
 12 \\
 \hline
 301 \\
 \hline
 769
 \end{array}$$

B 10  
516  
432



### Gathering Hickory Nuts

On Thanksgiving Day, Bobby visited his cousin George. George lives on a farm. The boys gathered hickory nuts in the woods. Bobby found 161 nuts. George found 176. How many hickory nuts did both boys find? *337*

161
176
337

To find the answer, we add 161 and 176.

To add them, we must carry from the tens column. What figure do we carry?

1. Copy these examples, and add:

$$\begin{array}{r}
 371 & 432 & 548 & 447 & 92 & 281 & 956 \\
 \underline{694} & \underline{287} & \underline{361} & \underline{592} & \underline{163} & \underline{472} & \underline{151}
 \end{array}$$

2. In the examples below, you must carry from both the units column and the tens column.

$$\begin{array}{r}
 597 & 275 & 635 & 925 & 564 & 441 & 158 \\
 \underline{643} & \underline{456} & \underline{488} & \underline{637} & \underline{787} & \underline{269} & \underline{284}
 \end{array}$$

3. Copy the examples below, and add.

$$\begin{array}{ccccccc}
 A & B & C & D & E & F & G \\
 125 & 14 & 145 & 246 & 112 & 213 & 138 \\
 463 & 192 & 23 & 54 & 245 & 112 & 254 \\
 \underline{251} & \underline{256} & \underline{117} & \underline{348} & \underline{616} & \underline{365} & \underline{372}
 \end{array}$$

In which of the examples of exercise 3 did you have to carry from both the tens and the units columns? *No*

### Armistice Day at the Farm

Bill and May spent Armistice Day at Uncle Frank's farm.

1. They went to the pasture with Uncle Frank. They rode on 6 of the horses that were in the pasture. There were 4 horses in the pasture that they did not ride. 2 other horses were in the barn. How many horses were in the pasture?

Is there a number in this problem that you do not need in finding the answer? What is it?

Watch out for numbers that you do not need when you are finding answers to problems. Use these four questions to help you find answers:

1. What is the question in the problem?
2. Should we add or subtract?
3. What numbers do we use to find the answer?
4. What is the answer to the problem?

2. May helped bake 144 cookies. She ate 12 of them, and Bill ate 15. What was the difference between the number of cookies May and Bill ate?

3. Bill counted 7 black cows in the barn-yard. In the pasture he counted 6 brown cows and 8 black cows. How many black cows did he count in both places?



4. Uncle Frank told Bill that he had 115 posts that he could use for a fence around his farm. He had 15 other posts that he could not use. He told Bill that he needed 39 more posts for the fence. How many posts did Uncle Frank plan to use for the fence around his farm?

5. Aunt Nancy had many jars of food on the shelves. May counted 78 jars of beans, 42 jars of tomatoes, and 63 jars of beets. How many more jars of beets than of tomatoes did she count?

6. Uncle Frank said that he had sold 89 turkeys for Thanksgiving and had 164 left. How many turkeys did he have before he sold the 89?

### Reading and Writing Money

When we write "seven dollars" in figures, we write it like this →

\$7

The sign before the 7 is called the **dollar sign**. We write the dollar sign before any number that means dollars.

Read the following: \$6    \$2    \$10    \$13

Here is the way to write "nine dollars and sixty-eight cents." →

\$9.68

The dot between the 9 and the 6 is called the **decimal point**. Say "and" for the decimal point when you read such numbers.

Read the following: \$4.75    \$2.80    \$7.51    \$43.91

Here are two ways to write "seven dollars":

\$7	\$7.00
-----	--------

Here are two ways to write "seventy cents":

70¢	\$.70
-----	-------

Here are two ways to write "seventy dollars":

\$70	\$70.00
------	---------

Here are two ways to write "seven cents":

7¢	\$.07
----	-------

Now see if you can read these:

\$50    \$.05    \$.50    \$5.00    5¢    50¢    \$50.00    \$5

Read the following:

A	B	C	D	E
\$5.20	\$15.00	\$.04	\$.97	\$.10
\$23.00	\$ 9.01	\$.43	\$.08	\$.71

Write the following, using figures and signs:

1. Twelve dollars and seventy cents.
2. Fourteen dollars and fourteen cents.
3. Ten dollars and nine cents.

Write the following in two ways, using figures:

4. Forty-seven cents.
6. Three cents.
5. Sixty cents.
7. Nine dollars.

Which is more:

1. Seventeen or seventy?    4. 72, or  $26 + 33$ ?
2. Thirteen, or  $9 + 5$ ?    5.  $57 - 45$ , or 18?
3.  $8 + 4$ , or  $16 - 7$ ?    6.  $35 + 21$ , or  $79 - 32$ ?

## Can You Open the Door?



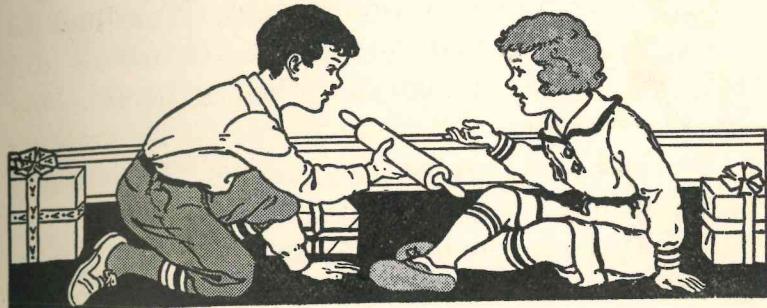
This page is the door to a new chapter. You can open the door if you can do the work below.

1. Write the sign that tells us to subtract.
2. Write the sign that is called "equals."
3. The second month of the year is \_\_\_\_.
4. The figure in the tens column in 47 is \_\_\_\_.
5. The figure in the tens column in 205 is \_\_\_\_.
6. The figure in the ones column in 205 is \_\_\_\_.
7. Check addition by adding \_\_\_\_ the column.
8. 840 means \_\_\_\_ hundreds, \_\_\_\_ tens, and \_\_\_\_ ones.
9. Write five hundred one in figures.
10. One dollar equals \_\_\_\_ quarters.
11. A half-dollar equals \_\_\_\_ cents.
12. A dollar equals \_\_\_\_ half-dollars.
13. 1 quarter = \_\_\_\_ nickels.
14. Write ten dollars and one cent in figures.
15. Write 4¢ in figures in another way.
16. Add: 38, 149, 2, 64.
17.  $8+9+6=$
18.  $23+8=$
19.  $17-8=$
20.      21.      22.      23.      24. 268

23	248	9
4	417	24
<u>22</u>	<u>-35</u>	<u>54</u>
	325	402

## CHAPTER 3

### HOLIDAY TIME



#### Planning for Christmas

Bobby and Betty were making plans for Christmas.  
"I have bought Mother a rolling pin," said Bobby.  
"What will you give her, Betty?"

"I want to give Mother that flower-pot we saw last week, but I have only 45 cents," said Betty.  
"I must buy a present for Father, too."

"I remember the price of the flower-pot," said Bobby. "It was 27 cents."

"That won't leave very much for a present for Father," said Betty.

Betty had 45 cents. If she spent 27 cents for a flower-pot, how much would she have left? 82

**Note to the Teacher.**—At this point, the class should be taught the borrowing process in subtraction (or the carrying process, if the additive method is used). Give ample practice, using numbers of two figures.

### Tom's and Mary's Christmas Lists

One afternoon Tom and Mary each made a list of the presents they planned to give their friends for Christmas.

1. Mary had 25 names on her list. Tom had 13 names on his list. How many fewer names did Tom have on his list than Mary had on hers?

2. Mary planned to make 10 of the 25 presents on her list, and to buy the others. How many should she buy?

3. Mary had bought 2 toy aeroplanes, 6 jacks, 3 little trains, and 2 little balls. How many of these toys in all had Mary bought?

4. Mary bought her sister a doll. It was 8 inches longer than her big doll. Her big doll was 12 inches long. How long was the doll that Mary bought?

5. Tom was going to give Mary twin dolls and a bed. The dolls together cost 60¢ and the bed 25¢. How much would the dolls and bed together cost?

6. A game Mary planned to give Tom cost 75¢ at one store and 48¢ at another store. How much would Mary save by buying it for 48¢ instead of 75¢?

Copy the examples below, and subtract.

$$\begin{array}{r}
 46 & 71 & 57 & 93 & 65 & 88 & 38 & 37 \\
 29 & \underline{45} & \underline{38} & \underline{67} & \underline{39} & \underline{59} & \underline{26} & \underline{19} \\
 \hline
 71 & 64 & 74 & 81 & 69 & 92 & 61 & 73 \\
 38 & \underline{17} & \underline{25} & \underline{66} & \underline{52} & \underline{44} & \underline{24} & \underline{15}
 \end{array}$$

### Checking Subtraction

John took 75 Christmas seals home from school to sell. He sold 28 of them to Mr. Brown. His mother wanted the others.

"How many seals have you left for me, John?" she asked.

"I shall subtract 28 from 75 to find out," said John.

$$\begin{array}{r}
 75 \\
 -28 \\
 \hline
 57
 \end{array}$$

John subtracted, but made a mistake.

"I can sell you 57 seals," he said.

He handed the seals to his mother.

"Please count them to see if they are all there," said John.

"There are only 47 seals here," Mother said.

If John had checked his work, he would have found out that his answer was wrong.

Example A shows how to check subtraction. To check the example, add the numbers the arrows point to.

What is the sum of 62 and 35?

Where is this sum written?

If this sum is not the same as the top number in the example, the work should be done again.

Subtract and check:

$$\begin{array}{r}
 83 & 95 & 82 & 95 & 61 & 95 & 56 & 92 \\
 29 & \underline{81} & \underline{46} & \underline{16} & \underline{47} & \underline{58} & \underline{18} & \underline{28}
 \end{array}$$



A	
97	
-62	←
35	←
97	

B  
59  
- 26 ←  
32 ←  
58

The arrows point to the numbers we should add to check example B.

What is the sum of 26 and 32?

Where is this sum written?

Is it the same as the top number in the example?

Should we work example B again?

Here example B is worked again.

The arrows show which numbers to add when we check.

The sum of 26 and 33 is 59.

Is 33 the correct answer?

1. Copy the examples below with their answers. Check the work. If an answer is wrong, erase the answer, and work the example again.

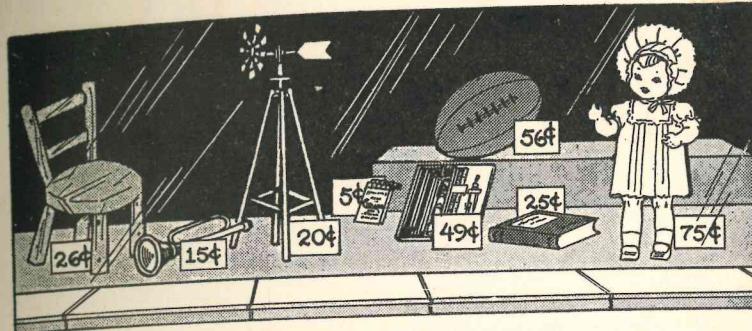
$$\begin{array}{r} 56 & 81 & 35 & 64 & 34 & 92 & 97 & 43 \\ -19 & -69 & -17 & -38 & -11 & -23 & -69 & -14 \\ \hline 37 & 22 & 18 & 36 & 13 & 69 & 28 & 39 \end{array}$$

2. Work the examples below. Check your work.

$$\begin{array}{r} 52 & 92 & 66 & 94 & 79 & 82 & 65 & 93 \\ -13 & -69 & -38 & -25 & -41 & -17 & -26 & -48 \\ \hline \end{array}$$

3. Find the number that belongs where each star is:

$$\begin{array}{ccccccccc} * & * & * & 2 & 5 & 2 & * & 2 & 3 & 1 \\ 2 & 1 & 5 & * & 4 & * & 6 & 7 & * & 3 \\ 6 & 4 & 3 & 2 & * & 4 & 1 & * & 3 & * \\ \hline 11 & 13 & 15 & 10 & 12 & 11 & 16 & 14 & 13 & 12 \end{array}$$



A Christmas Window

At Christmas-time there are many things to see in the store windows. These problems are about the things in the window above.

1. How much money must Mary have so that she can buy a book, a horn, and a doll's chair?
2. Jane has 38¢. How much more money does she need so that she can buy the doll?
3. John had 25¢ left after he bought the horn. How much money did he have before he bought it? How much money should you have left:  
4. if you had 75¢ and bought a windmill?  
5. if you had 95¢ and bought a pencil-box?  
6. if you had 35¢ and bought a book?  
How much would you have to pay for:  
7. a football, a box of crayons, and a book?  
8. a horn and a pencil-box?  
9. a windmill, a horn, and a football?  
10. a doll, a football, a horn, and a doll's chair?



### Tricks in Subtraction

"I learned some tricks in subtraction to-day," Nell said to her father. "I'll show them to you."

Nell wrote example A on paper. She subtracted and got the correct answer.

Before she subtracted, she thought of the 0 as 10. Why?

Copy the examples below, and subtract.

30	80	50	72
17	54	31	38
<hr/>	<hr/>	<hr/>	<hr/>

40	90	65	90
15	42	43	66
<hr/>	<hr/>	<hr/>	<hr/>

"Here's a zero that tricked me to-day," said Nell, as she worked example B.

She wrote 7 for her answer. She did not write 0 under the 4.

When a zero comes at the left, it is not placed in the answer.

Copy the examples below, and subtract.

91	80	68	87
85	79	45	82
<hr/>	<hr/>	<hr/>	<hr/>

45	38	52	76
25	29	38	67
<hr/>	<hr/>	<hr/>	<hr/>

### Problems for Careful Readers

1. John and Bill together have \$21 in the bank. John has \$12 in the bank. How much has Bill in the bank?

2. Ann's book has 256 pages. It has 34 fewer pages than Sue's book. How many pages has Sue's book?

3. Nancy's book has 256 pages. Alice's book has 34 fewer pages than Nancy's book. How many pages has Alice's book?

4. Joe and Sam together have 28 apples. Sam has 19 of them. How many apples has Joe?

5. Tom has 128 marbles, and Jim has 36 marbles. What is the difference between the number of marbles Tom has and the number Jim has?

6. Bobby has more marbles than Joe. Joe has 128 marbles. The difference between the number of marbles Joe has and the number Bobby has is 36. How many marbles has Bobby?

### Practice on Tricks in Subtraction

Copy the examples below, and subtract. Check your answers. Look out for the tricks!

65	70	74	67	42	80	98	33
57	28	6	18	39	43	57	4
<hr/>							

92	71	90	86	61	93	24	80
75	69	59	30	2	37	17	4
<hr/>							



### A Christmas Trip

A week before Christmas, Father and Mother took Dick and Ann in the car to Aunt Sue's farm.

At noon they stopped to get something to eat. "How far are we from Aunt Sue's?" asked Dick.

"Her farm is 375 miles from our house," said Father. "We have come 149 miles this morning."

"Father is going to make us do some subtracting," said Ann. "Give me your pencil, Dick." Here is what Ann wrote.

How far were they from Aunt Sue's?

Copy the examples below, and subtract.

653	469	817	564	725	947	426
<u>417</u>	<u>271</u>	<u>345</u>	<u>239</u>	<u>490</u>	<u>219</u>	<u>312</u>
738	731	590	849	896	897	727
<u>196</u>	<u>517</u>	<u>471</u>	<u>255</u>	<u>175</u>	<u>469</u>	<u>350</u>
874	642	612	407	573	659	851
<u>758</u>	<u>142</u>	<u>460</u>	<u>284</u>	<u>155</u>	<u>289</u>	<u>333</u>

**Note to the Teacher.**—Show pupils how to subtract when it is necessary to borrow (or carry) in the tens column; in both the units and the tens columns.

$$\begin{array}{r} 375 \\ - 149 \\ \hline 226 \end{array}$$

### Problems without Numbers

You cannot answer these problems. They have no numbers. Just tell if you should add or subtract.

1. Joe saved — cents in May and — cents in June. How much did he save in both months?

2. Mary helped her mother — hours on Monday, — hours on Tuesday, — hours on Wednesday, and — hours on Thursday. How many hours did she help her mother on all four days?

3. Betty had — cents left after spending — cents for candy. How much money did she have before she bought the candy?

4. Bill walked two miles in — minutes. He walked the first mile in — minutes. How long did it take him to walk the second mile?

5. Jack can walk to school in — minutes. Jim can walk to school in — minutes. In how many fewer minutes can Jack walk to school than Jim?

6. One day Tom earned money in three ways. He earned — cents shovelling snow, — cents going to the store, and — cents helping his uncle. How much money did Tom earn altogether that day?

Copy these examples, and subtract:

935	606	537	912	778	560	547
<u>146</u>	<u>425</u>	<u>419</u>	<u>346</u>	<u>165</u>	<u>179</u>	<u>285</u>
843	921	873	740	873	912	791
<u>209</u>	<u>736</u>	<u>731</u>	<u>163</u>	<u>480</u>	<u>284</u>	<u>558</u>



### Quick Drill



	A	B	C	D	E	F
1.	$39 + 2$	$\frac{16}{-7}$	$\frac{24}{+9}$	$7 + 4 + 4$	$\frac{44}{-23}$	--- dimes = \$1
2.	$\frac{13}{+62}$	$8 + 6 + 5$	"plus" means + ...	$\frac{29}{-4}$	$\frac{30}{+87}$	57 - 54
3.	$5 + 9 + 2$	$\frac{37}{-6}$	$16 + 9$	$\frac{25}{+53}$	F.R.I. means -----	147 - 91
4.	$\frac{15}{-8}$	nickels = \$1	$\frac{129}{-46}$	$\frac{47}{+8}$	$9 + 9 + 4$	$\frac{52}{+76}$

You know that you cannot subtract a larger number from a smaller number.

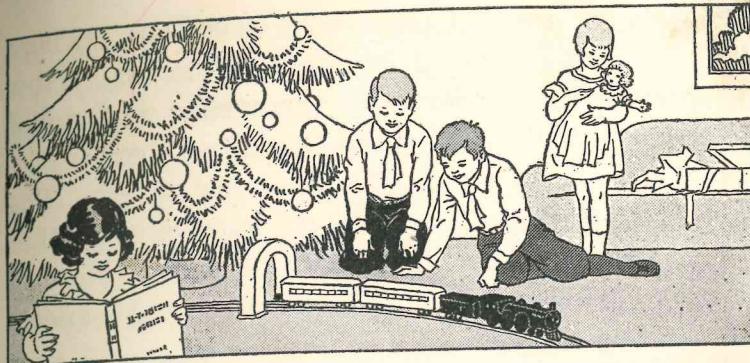
Find the examples below in which you cannot subtract. Copy the other examples, and subtract.

1.	435	2.	902	3.	573	4.	781	5.	704	6.	829
296	538	538	820	820	248	248	385	385	292	292	865

7.	621	8.	537	9.	845	10.	361	11.	208	12.	850
434	539	539	240	240	447	447	213	213	292	292	865

Subtract in each example, and check your answer:

741	905	862	603	717	491	803
251	538	657	385	134	50	564



### Christmas at Aunt Sue's

Here are some problems about the presents that were on the Christmas tree for the children at Aunt Sue's. Some of them have two questions. Use these helps when you answer each question.

- 1. What is the question?
- 2. Should we add or subtract?
- 3. What numbers do we use to find the answer?
- 4. What is the answer?

1. There was a train of red cars and green cars for Jack. 9 cars were red, and 5 cars were green. How many cars were there in the train? How many more red cars than green cars were there?

2. Jack also got a set of toy builders. The set had 48 spools and 138 sticks in it. How many spools and sticks in all were there in the set? How many more sticks than spools were there?

3. Ann got a box of paper dolls to cut out. There were 17 girl dolls and 11 boy dolls in the box. How many fewer boy dolls were there than girl dolls? How many dolls were in the box altogether?

4. There was a set of dishes for Alice. The set had 12 plates, 12 saucers, 12 cups, and 7 other dishes. How many dishes of all kinds were in the set? How many of both cups and saucers were in the set?

5. Alice got 50¢ for Christmas. She told Ann that, if she had 45¢ more, she could buy a hat that she had seen at the store. What was the price of the hat that Alice had seen at the store?

6. There was a box with 75 pieces of candy in it for Dick. Dick gave 57 pieces to the other children. How many pieces did he have left?

7. Each boy got a toy aeroplane. They went out into the yard to fly them. Dick's aeroplane flew 50 feet. Jack's flew 40 feet. How much farther did Dick's aeroplane fly than Jack's?

8. Dick had a printing outfit with 96 letters and 44 figures in it. He got 130 new letters and 50 new figures for Christmas. How many letters had he then? How many figures had he then?

9. Ann and Alice each got a pencil-box. There were 15 pencils and 4 erasers in Alice's box. There were 18 pencils and 2 erasers in Ann's box. How many pencils were there in both boxes?

### The Day after Christmas

Bobby and Betty went to see the toys that their friends got at Christmas.

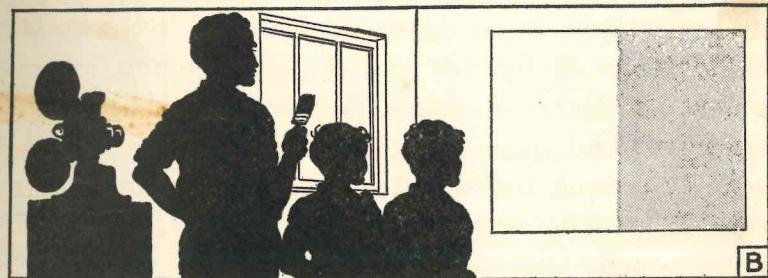
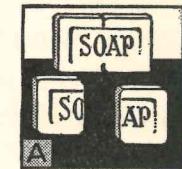
Betty went to Molly's home. Molly came to the door with a cake of soap in her hand.

"Uncle Bob has been showing me how to make things out of soap," she said. "Let's make dolls. I'll give you half of this cake of soap, Betty."

Molly cut the soap into two equal parts. Picture A shows the cake of soap and the two pieces that Molly had after she cut it. Each piece is one-half of the cake of soap.

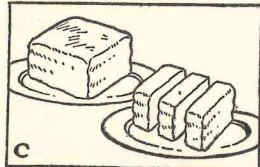
Bobby went to see Tom's and Mary's presents. Tom showed Bobby his new moving-picture outfit. His father was painting a screen on which to show pictures. He had one-half of the screen painted.

Look at picture B. One-half of the screen is painted. The part that is painted is the same size as the part that is not painted.



Mary brought in a small cake.

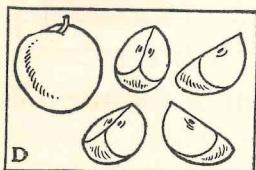
"Mother baked a little cake for me," she said.  
"I shall cut it into three pieces."



Picture C shows the cake and the pieces that Mary had after she cut it. She cut it into three equal parts. Each part was one-third of the cake.

Mary and the boys ate the cake and began to play. Soon Betty came in.

"See the big apple that Molly gave me," said Betty.  
"I shall cut it into fourths to make four pieces."



Picture D shows the apple and the pieces into which Betty cut it. She cut it into four equal parts. Each part was one-fourth of the apple.

One doughnut in picture E has been cut into two equal parts.

Each part is \_\_\_\_ of the doughnut.

One doughnut in picture F has been cut into three equal parts.

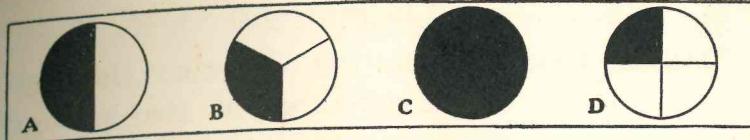
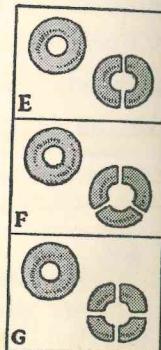
Each part is \_\_\_\_ of the doughnut.

One doughnut in picture G has been cut into four equal parts.

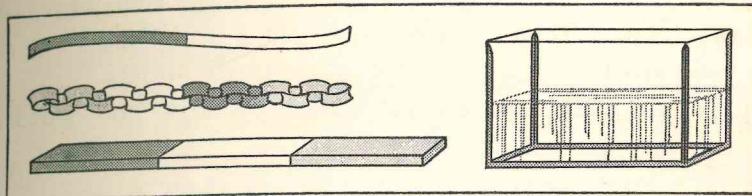
Each part is \_\_\_\_ of the doughnut.

Here is a new way to write one-half →  $\frac{1}{2}$

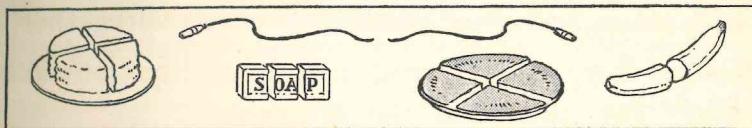
Write one-third and one-fourth the new way.



1. All of circle C above is black.
2. One-half of circle \_\_\_ is black.
3. One-fourth of circle \_\_\_ is black.
4. One-third of circle \_\_\_ is black.



5. How much of the board shown in the picture above is white?
6. How much of the strip of paper is white?
7. How much of the fish-bowl is filled?
8. How much of the paper chain is white?



Answer these questions about the picture above:

9. What thing is cut into thirds?
10. What things are cut into fourths?
11. What things are cut into halves?

## A Game of Words

One afternoon during the Christmas holidays, Betty and five other girls played the game of "Words." The game was to see which girl could make the most words from the letters that Betty had in a big box. Each word was to have just four letters.

Here is the number of words that each girl made:

Ann, 11	Sue, 19	Nell, 24
Jane, 24	Betty, 12	May, 17

1. Ann and Sue made \_\_\_\_ words in all.
2. If May had made 8 more words, she would have made \_\_\_\_ words.
3. Jane made \_\_\_\_ more words than Ann.
4. Jane, Betty, May, and Nell together made \_\_\_\_ words.
5. May made \_\_\_\_ fewer words than Sue.
6. Sue would have had 39 words if she had made \_\_\_\_ more words.
7. Jane and Nell each made \_\_\_\_ words.
8. Jane and Nell made \_\_\_\_ words altogether.
9. Sue put 7 of her words back into the box. She had \_\_\_\_ words left.
10. The difference between the number of words that May and Betty made is \_\_\_\_.
11. Ann made \_\_\_\_ fewer words than Sue.
12. If Nell had made 10 fewer words, she would have made only \_\_\_\_ words.

## Watching Zero in Subtraction

In some subtraction examples you will find a tricky zero.

Watch for a tricky zero in each example below.

A	B	C	D	E
574	743	806	300	965
-269	-508	-497	-125	-367
305	235	309	175	598

1. In example A, how do we get 0 in the answer?
2. In example B, how do we get 3 in the answer?
3. Look at example C. How do we get the 0 in the answer? How do we get the 3 in the answer?
4. Look at example D. What changes must we think in the zeros when we subtract?
5. In example E, how do we get 9 in the answer?

Subtract in these examples. Watch the zeros.

866	403	930	691	300	372	973
257	298	608	397	192	163	197
702	521	800	637	783	417	602
495	317	574	138	506	208	113

Find the sums:

75	45	9	90	40	227	19
51	445	502	44	386	389	33
194	258	45	78	95	8	224





### Building Snow-Men

Bobby and Betty and their friends made snow-men. Here are the things they used:

8 large snow-balls	16 sticks	12 gloves
27 small snow-balls	45 stones	4 hats

1. The girls made 9 of the 27 small snow-balls. How many small snow-balls did the boys make?
2. How many snow-balls did they use altogether?
3. How many other things did they use in all to make the snow-men?
4. The children used 18 of the stones for buttons. How many stones did they use for other things?
5. How many fewer hats than gloves did they use to make the snow-men?
6. It took them 55 minutes to build the snow-men, and 35 minutes to make the snow-balls. How many minutes did it take them to do both?

Subtract:

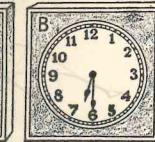
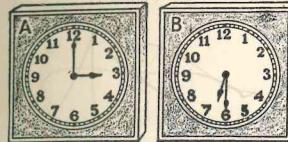
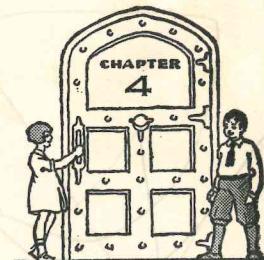
487	755	903	800	892	960	600
<u>379</u>	<u>356</u>	<u>599</u>	<u>689</u>	<u>387</u>	<u>406</u>	<u>463</u>

### Can You Open the Door?

This page is the door to a new chapter. You can open the door if you can do the work below.

1. Tuesday is the \_\_\_ day of the week.
2. A year has \_\_\_ months.
3. A week has \_\_\_ days.
4. In 926 the figure in the ones column is \_\_\_.
5. In 926 \_\_\_ is in the hundreds column.
6. In 926 \_\_\_ is in the tens column.
7. Write four hundred fourteen in figures.
8. Write eight hundred eight in figures.
9. Write six dollars and ten cents in figures.
10. Write one dollar and one cent in figures.
11. One dollar equals \_\_\_ dimes.
12. Clock A shows what time?
13. Clock B shows what time?
14. If something is cut into two equal parts, each part is called one-\_\_\_.
15. If something is cut into three equal parts, each part is called one-\_\_\_.
16. Write in a column, and add: 38, 419, 5, 63.
17. 345    18.              19. 23    20.              21.  

10	305	82	247	647
<u>455</u>	<u>-97</u>	<u>99</u>	<u>-198</u>	<u>-485</u>



CHAPTER 4  
HOME PLAY



**Bosco and Bozo**

Patty was playing with her toy builders.

"I think your toy builders have a story to tell," said Uncle Jack. He picked up two spools and five sticks and made a toy boy. Then he made another toy boy like the first one.

How many spools were used to make one boy?

How many spools were used to make two boys?

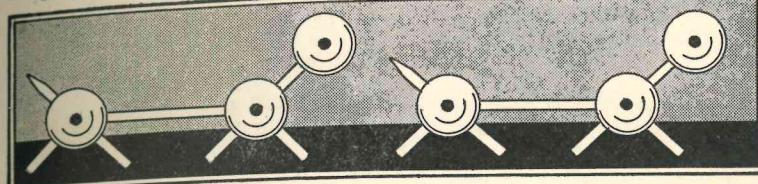
How many sticks were used to make one boy?

How many sticks were used to make two boys?

"These two boys were twins," Uncle Jack began. "They looked so much alike that no one could tell them apart. Their names were Bosco and Bozo."

"Each boy had a dog. The dogs were so much alike that neither boy knew which dog was his."

While he was talking, Uncle Jack made two toy dogs with some of the sticks and spools.



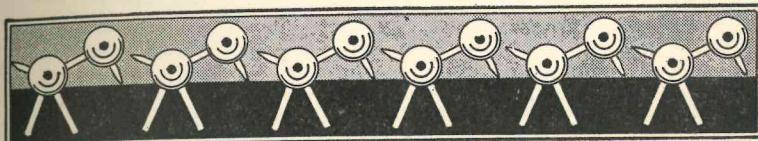
How many spools were used to make one dog?

How many spools were used to make two dogs?

How many sticks were used to make one dog?

How many sticks were used to make two dogs?

"Bosco and Bozo each had three chickens."

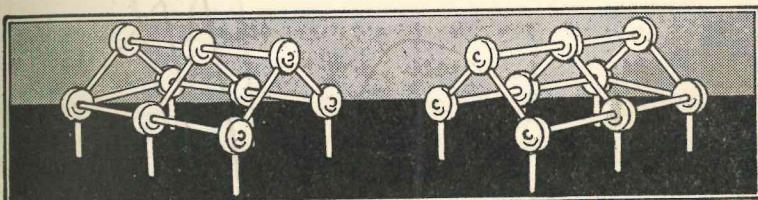


How many spools were used to make one chicken?

How many spools were used to make six chickens?

"When night came, the boys and the dogs were tired."

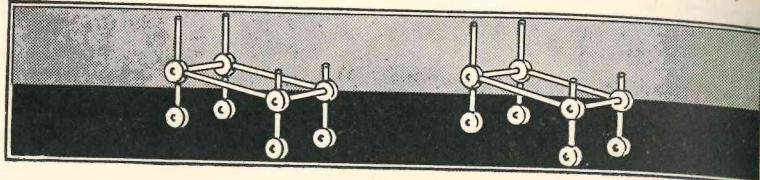
"Each dog had his own little house to sleep in."



How many spools were used to make one house?

How many spools were used to make two houses?

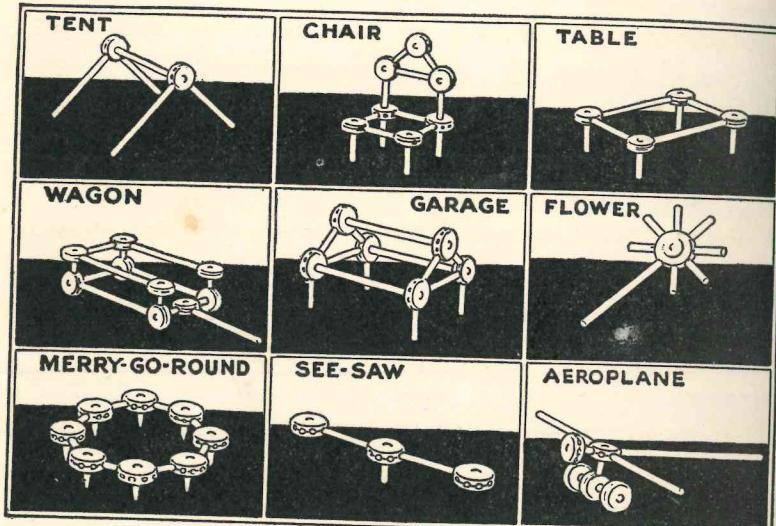
"Bosco and Bozo slept in beds that were just alike," said Uncle Jack, as he made two toy beds.



How many spools were used to make one bed?  
How many spools were used to make two beds?

# Patty's Toy Builders

Patty made toys like those shown in the picture.



Use the pictures of the toys Patty made to help you answer the questions on the next page.

## What "Multiply" Means

While Patty was playing with the toy builders, Patty's baby sister carried 4 of the sticks to the kitchen. Then she came back and carried away 4 more sticks.

The baby carried 4 sticks to the kitchen 2 times. How many sticks in all did she carry away?

Here are two ways to find the answer to this question:

2 fours are 8, or 2 times 4 is 8.

2 sevens are 14. 2 times 7 is \_\_\_\_.

Learn these examples with their answers:

2 times 3 is 6.	2 times 6 is 12.	2 times 7 is 14.
2 times 5 is 10.	2 times 8 is 16.	2 times 2 is 4.
2 times 9 is 18.	2 times 1 is 2.	2 times 4 is 8.

When we say "2 times 7," we multiply 7 by 2. 2 times 5 means to multiply 5 by \_\_\_\_.

This sign tells us to multiply →  We call it the **times** sign.

When we read it, we say "times."

A  
 $2 \times 5 = 10$

Look at example A. We read it in two ways: 2 times 5 is 10, or 2 times 5 equals 10.

Read these examples, and give the answers:

$$\begin{array}{llll} 2 \times 5 = & 2 \times 3 = & 2 \times 8 = & 2 \times 2 = \\ 2 \times 7 = & 2 \times 6 = & 2 \times 4 = & 2 \times 9 = \end{array}$$

## Problems About Holiday Fun

Multiply to find the answers to these problems:

1. Ned said that he had visited his cousin for 2 weeks. There are 7 days in one week. For how many days did Ned visit his cousin?

2. Ann and Mary each brought 2 new dolls to school to show the other girls. How many new dolls did both girls bring to school?

3. Jack had 2 toy trains. Each toy train had 4 cars. Jack made one big train of all the cars. How many cars did he have in the big train?

4. Grandmother sent Polly 2 bags of nuts. Each bag had five pounds of nuts in it. How many pounds of nuts were there in both bags?

5. Jim and Sam had each read 3 books during the holidays. How many books in all had the two boys read during the holidays?

6. Jane learned to play a new game. She played the game twice, and made a score of 8 each time. What was her score for both games?

7. Two of Sue's friends each gave Sue 6 plates for her set of doll dishes. How many plates in all did the two friends give her?

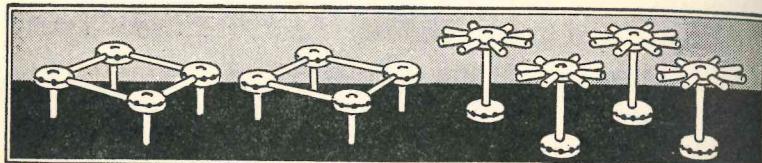
8. Andy and Jack did not get a football for Christmas. So they were saving their money to buy one. Each boy had saved 9¢. How much had the two boys together saved?

## Making Things for Dolls

One afternoon Betty asked Patty to come to her house and play. Patty brought her toy builders and her doll.

Each girl made some things for her doll with the toy builders. Patty made two tables. Betty made four racks to hang doll clothes on.

This picture shows the things the girls made.



How many spools did Patty use for each table?  
How many spools did Patty use for the 2 tables?  
2 fours are \_\_\_. 2 times 4 is \_\_\_.

How many spools did Betty use for each rack?  
How many spools did Betty use for the 4 racks?  
4 twos are \_\_\_. 4 times 2 is \_\_\_.

Look at the picture again. How many spools did each girl use?

2 fours are the same as 4 twos.  
2 times 4 is 8, and 4 times 2 is 8.

$2 \times 3 = 6$	$3 \times 2 =$
$2 \times 8 = 16$	$8 \times 2 =$
$2 \times 5 = 10$	$5 \times 2 =$

$2 \times 6 = 12$	$6 \times 2 =$
$2 \times 9 = 18$	$9 \times 2 =$
$2 \times 7 = 14$	$7 \times 2 =$

## Practice in Multiplying

Read these examples, and give the answers:

A	B	C	D
1. $2 \times 5 =$	$4 \times 2 =$	$8 \times 2 =$	$2 \times 7 =$
2. $3 \times 2 =$	$2 \times 6 =$	$2 \times 4 =$	$6 \times 2 =$
3. $2 \times 8 =$	$9 \times 2 =$	$5 \times 2 =$	$2 \times 2 =$
4. $7 \times 2 =$	$1 \times 2 =$	$2 \times 3 =$	$2 \times 9 =$

Examples A and B on the right  
are multiplication examples.

Read example A.

Example B shows a new way to write:  
2 times 6 is 12. We read it just as  
we read example A. The sign tells us to  
multiply.

A       $2 \times 6 = 12$

B       $\begin{array}{r} 6 \\ \times 2 \\ \hline 12 \end{array}$

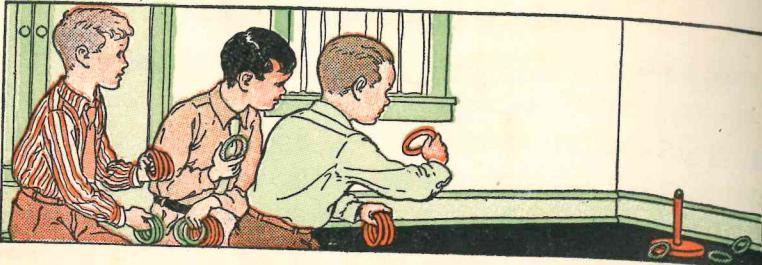
Read each example below, and give the answer.

$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times 2 \\ \hline \end{array}$
$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 1 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$

## Watching Signs

Give the answers for the examples below.

$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 2 \\ \hline \end{array}$



### Playing Ring Peg

One afternoon Joe, Sam, and Bobby played a game called Ring Peg. These problems tell about the game.

Read each problem carefully. If you should multiply to get the answer, look at the examples at the bottom of this page. Find the one that gives the answer to the problem. If you should add or subtract to get the answer, make an example that shows the answer.

1. Each of the three boys had 7 rings. How many rings did the three boys have altogether?
2. Each boy had four red rings. How many red rings did the three boys have in all?
3. Each boy had 3 green rings. How many green rings did all three boys have?

A	B	C	D	E	F	G	H
$8$	$7$	$4$	$1$	$6$	$3$	$5$	$9$
$\times 3$							
$24$	$21$	$12$	$3$	$18$	$9$	$15$	$27$

4. Once Joe threw 3 rings and missed the peg with each one. How many of his 7 rings did he have left to throw?

5. The first time the three boys threw their rings, each of them put 1 ring on the peg. How many rings were put on the peg the first time?

6. The second time, each of the 3 boys missed the peg with 5 rings. How many rings missed the peg the second time?

7. The third time, Sam put 3 green rings and 2 red rings on the peg. How many rings of both colours did Sam put on the peg the third time?

8. Each boy had 9 turns at throwing the rings. How many turns did the three boys together have?

9. Joe's mother gave each boy 6 cookies. How many cookies did she give all three boys?

Learn the examples and their answers on page 82.

Give the answers for the following examples:

$\underline{7}$	$\underline{4}$	$\underline{2}$	$\underline{9}$	$\underline{2}$	$\underline{2}$	$\underline{6}$	$\underline{2}$	$\underline{2}$
$\times 2$	$\times 3$	$\times 1$	$\times 3$	$\times 5$	$\times 2$	$\times 3$	$\times 3$	$\times 8$
$5$	$6$	$8$	$2$	$1$	$7$	$2$	$3$	$3$
$\times 3$	$\times 2$	$\times 3$	$\times 4$	$\times 3$	$\times 3$	$\times 9$	$\times 3$	$\times 2$

The next story is about a toy farm.



## The Toy Farm\*

The children in Sally's room made a toy farm. They cut out animals and made the buildings and the fences of cardboard and paper.

1. The house that they made for the farm had 14 windows. The girls made 2 curtains for each window. How many curtains did the girls make?
2. Sue cut out three rows of tomato plants for the garden. Each row had 22 plants. How many tomato plants did Sue cut out?
3. Sam made pens for 3 mother pigs and their baby pigs. One mother pig had 9 baby pigs, one had 13, and one had 10. How many baby pigs did all three mother pigs have?
4. The children had 3 pages of chickens to cut out. There were 23 chickens on each page. How many chickens in all were there for the children to cut out?
5. Jane cut out 3 kinds of trees. She cut out 32 trees of each kind. How many trees did Jane cut out altogether?
6. Tom worked 3 days on the barn. He worked 36 minutes the first day, 43 minutes the second day, and 55 minutes the third day. How many minutes did Tom work on the barn?

\*Note to the Teacher.—(1) Before proceeding with this story, give sufficient drill to establish the 3 times facts and reverses. (2) Show pupils how to multiply two-digit and three-digit numbers by 2 and 3 (no carrying involved). Include examples containing zero at the end, zero in middle.

## Pounds and Ounces

Jim stopped at the post-office on his way to school to mail two boxes. One box weighed 10 ounces, and the other weighed 6 ounces.

"The boxes together weigh 16 ounces," said the man in the post-office.

"Then they weigh 1 pound," said Jim. "16 ounces are the same as 1 pound."

$$16 \text{ ounces} = 1 \text{ pound}$$

1. Name something that is sold by the pound.
2. Name something that is sold by the ounce.
3. A box weighs 15 ounces. A book weighs 1 pound. Which is heavier, the box or the book?
4. John weighs 56 pounds, and Mary weighs 61 pounds. How much heavier is Mary than John?
5. John bought some meat and butter. The butter weighed 1 pound, and the meat weighed 16 ounces. Which was lighter, the meat or the butter?
6. How many ounces are there in 2 pounds?  
To find the answer, multiply 16 ounces by 2.
7. How many ounces are there in 3 pounds?

Find the answer for each example below.

61 $\times 3$	32 $\times 4$	24 $\times 2$	42 $\times 3$	21 $\times 7$	30 $\times 6$	43 $\times 2$	31 $\times 8$
------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------



### Multiplying Larger Numbers

One day Betty and Mary went to visit Jane. While they were there, each of the three girls made several baskets out of strips of coloured paper. Each girl used 132 strips of paper.

The answer to example A shows how many strips of paper the girls used.

How do we get the 6 in the answer?

How do we get the 9?

Find the answer for each example below.

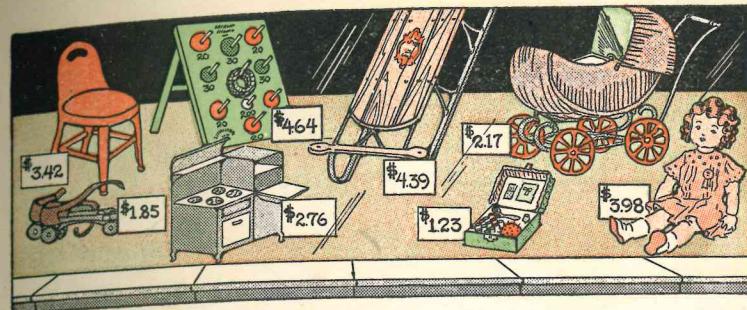
$$\begin{array}{r} 214 \\ \times 2 \\ \hline 428 \end{array} \quad \begin{array}{r} 121 \\ \times 3 \\ \hline 363 \end{array} \quad \begin{array}{r} 341 \\ \times 2 \\ \hline 682 \end{array} \quad \begin{array}{r} 213 \\ \times 3 \\ \hline 639 \end{array} \quad \begin{array}{r} 412 \\ \times 2 \\ \hline 824 \end{array} \quad \begin{array}{r} 121 \\ \times 4 \\ \hline 484 \end{array} \quad \begin{array}{r} 313 \\ \times 3 \\ \hline 939 \end{array}$$

$$\begin{array}{r} 111 \\ \times 7 \\ \hline 777 \end{array} \quad \begin{array}{r} 321 \\ \times 3 \\ \hline 963 \end{array} \quad \begin{array}{r} 212 \\ \times 4 \\ \hline 848 \end{array} \quad \begin{array}{r} 124 \\ \times 2 \\ \hline 248 \end{array} \quad \begin{array}{r} 596 \\ \times 1 \\ \hline 596 \end{array} \quad \begin{array}{r} 123 \\ \times 3 \\ \hline 369 \end{array} \quad \begin{array}{r} 132 \\ \times 2 \\ \hline 264 \end{array}$$

$$\begin{array}{r} 203 \\ \times 3 \\ \hline 609 \end{array} \quad \begin{array}{r} 140 \\ \times 2 \\ \hline 280 \end{array} \quad \begin{array}{r} 220 \\ \times 4 \\ \hline 880 \end{array} \quad \begin{array}{r} 402 \\ \times 3 \\ \hline 1206 \end{array} \quad \begin{array}{r} 303 \\ \times 3 \\ \hline 909 \end{array} \quad \begin{array}{r} 304 \\ \times 2 \\ \hline 608 \end{array} \quad \begin{array}{r} 210 \\ \times 3 \\ \hline 630 \end{array}$$

A

132
× 3
396



### Buying Toys

Nancy's Aunt June gave her five dollars for her birthday. There were many things that Nancy wanted to buy. The picture shows some of them.

Example A shows what Nancy would have to pay for a game-board and a sewing-box like those in the picture.

Did Nancy get enough money from her aunt to buy them?

When we write prices in a column, we keep the cents points one under the other. Where are the dollar signs written in example A?

If Nancy bought only a chair, how much of the \$5 would she have left?

Is the answer for example B right?

Are the cents points one under the other? Where are the dollar signs?

A

\$4.64
+ 1.23
<hr/>
\$5.87

B

\$5.00
- 3.42
<hr/>
\$1.58

\$1.12	\$2.50	\$1.50	\$3.90
-.75	-.88	-.25	-.13
<hr/>	<hr/>	<hr/>	<hr/>
\$ .37	\$ 1.62	\$ 1.25	\$ 3.77

C \$1.85	D \$1.85
2.76	2.76
<u>2.17</u>	<u>2.17</u>

Nancy wrote example C.  
Her friend Sally wrote example D.

What is wrong with the way Sally wrote example D?

Read the prices shown in these examples, and add:

1.	2.	3.	4.	5.
\$1.27	\$4.62	\$2.10	\$7.14	\$6.59
2.15	1.00	3.04	.85	1.78
<u>1.30</u>	<u>2.57</u>	<u>1.17</u>	<u>1.26</u>	<u>.95</u>

Read the prices shown below, and subtract.

6.	7.	8.	9.	10.
\$6.52	\$8.37	\$7.14	\$4.00	\$3.41
<u>1.29</u>	<u>5.53</u>	<u>6.68</u>	<u>2.88</u>	<u>.95</u>

What would Nancy have to pay for:

11. the sled and the doll buggy?
12. the skates, the stove, and the sewing-box?
13. the doll buggy, the skates, and the game-board?

What is the difference between the prices of:

14. the stove and the sled?
15. the doll buggy and the skates?

Nancy had \$5. How much money would she have left if she bought:

16. the game-board?
17. the sled?
18. the skates?
19. the stove?

### Multiplication with Carrying

Nancy used some of the money that her aunt had given her to buy the big doll. Then Nancy had \$1.02 left.

"I should like to get some quilts for my doll's bed," she said. "How much are they?"

"They are 23 cents each," said the storekeeper.

"I should like to buy four," said Nancy. "How much will four quilts cost?"

Should we add, subtract, or multiply to find out how much four quilts will cost?

Look at example A.

First think:  $4 \times 3 = 12$ .

The 2 is written in the answer.

Remember that there is 1 to carry.

Next multiply the 2 in 23 by 4.

Think:  $4 \times 2 = 8$ .

Now add the 1 that you carried. Think:  $8 + 1 = 9$ .

The 9 is written in the answer.

The four quilts will cost 92¢.

A

23¢
$\times 4$
92¢

In example B, first think:  $3 \times 8 = 24$ .

What figure is written in the answer? 4

What figure do you carry? 2

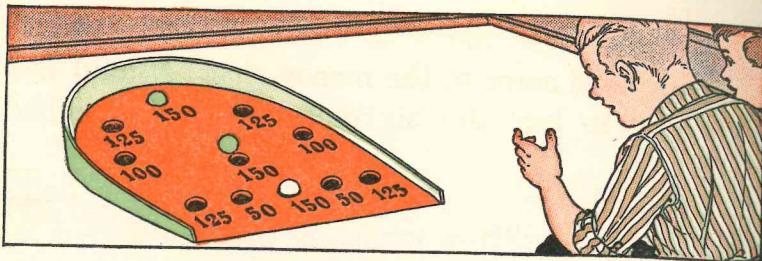
Now think:  $3 \times 1 = 3$ .

Add the 2 that you carry.

What figure is written in the answer? 5

B

18
$\times 3$
54



### Roll Ball

Bill and Sam played a new game.

First, Bill rolled three balls. Each ball dropped into a hole on the game-board. Each of these three holes had the number 125 in front of it.

Bill's score was 3 times 125.

In example A, what figure do we carry when we multiply 5 by 3?

Work example A to find Bill's score.

Then Sam rolled three balls. Each ball he rolled dropped into a hole with 150 in front of it. What was his score for the three balls? *450*

Look at example B.

Do we have a figure to carry to the tens column? What do we carry to the hundreds column? How do we get the 4 in the answer?

Which boy had the larger score? *bill*

Find the answer for each example:

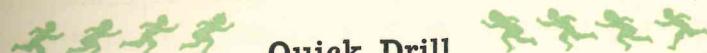
$$\begin{array}{r}
 415 \quad 121 \quad 273 \quad 223 \quad 362 \quad 132 \quad 349 \\
 \times 2 \quad \times 7 \quad \times 3 \quad \times 4 \quad \times 2 \quad \times 3 \quad \times 2 \\
 \hline
 \end{array}$$

How do we get the 4 in example C?  
What do we carry to the tens column?  
How do we get the 8 in the answer?

$$\begin{array}{r}
 c \\
 103 \\
 \times 8 \\
 \hline
 824
 \end{array}$$

Multiply in each example below.

$$\begin{array}{r}
 131 \quad 103 \quad 100 \quad 213 \quad 130 \quad 243 \quad 306 \\
 \underline{-} \quad \underline{-} \quad \underline{-} \quad \underline{-} \quad \underline{-} \quad \underline{-} \quad \underline{-} \\
 6 \quad 8 \quad 5 \quad 4 \quad 7 \quad 3 \quad 2 \\
 \hline
 22 \quad 472 \quad 103 \quad 219 \quad 203 \quad 312 \quad 33 \\
 7 \quad \underline{2} \quad \underline{5} \quad \underline{3} \quad \underline{4} \quad \underline{2} \quad \underline{5} \\
 \hline
 \end{array}$$



### Quick Drill

A	B	C	D	E	F
1. $6+8+8$	$14-9$	$\begin{array}{r} 20 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ -64 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ +6 \\ \hline \end{array}$	\$ .08 means ...¢
2. $36-3$	$4 \times 3 + 1$	$\begin{array}{r} 26 \\ +41 \\ \hline \end{array}$	1 foot = ...inches	$17-8$	$\begin{array}{r} 37 \\ +54 \\ \hline \end{array}$
3. $\begin{array}{r} 31 \\ \times 3 \\ \hline \end{array}$	$8+7+9$	$29-8$	$\begin{array}{r} 43 \\ +39 \\ \hline \end{array}$	SAT. means -----	$\begin{array}{r} 71 \\ -46 \\ \hline \end{array}$
4. $\begin{array}{r} 99 \\ +5 \\ \hline \end{array}$	$82$	"times" means -----	$2 \times 8 + 1$	$\begin{array}{r} 138 \\ -86 \\ \hline \end{array}$	$9+8+5$
5. $\begin{array}{r} 69 \\ -41 \\ \hline \end{array}$	$37$	$6 \times 3 + 1$	$\begin{array}{r} 90 \\ -21 \\ \hline \end{array}$	$\begin{array}{r} 25 \\ +75 \\ \hline \end{array}$	2 feet = ...inches

## Practice in Multiplication with Carrying

What figure is carried in each example below?

$$\begin{array}{r} 12 \\ \times 8 \\ \hline 96 \end{array} \quad \begin{array}{r} 78 \\ \times 3 \\ \hline 234 \end{array} \quad \begin{array}{r} 45 \\ \times 2 \\ \hline 90 \end{array} \quad \begin{array}{r} 94 \\ \times 3 \\ \hline 282 \end{array} \quad \begin{array}{r} 23 \\ \times 7 \\ \hline 161 \end{array} \quad \begin{array}{r} 39 \\ \times 3 \\ \hline 117 \end{array}$$

Multiply and add 1 in each example below.

$$\begin{array}{r} 3 \quad 2 \quad 3 \quad 1 \quad 7 \quad 3 \quad 2 \quad 1 \quad 9 \\ \times 3 \quad \times 9 \quad \times 5 \quad \times 8 \quad \times 2 \quad \times 2 \quad \times 6 \quad \times 4 \quad \times 3 \\ \hline \end{array}$$

Multiply and add 2 in each example below.

$$\begin{array}{r} 2 \quad 1 \quad 5 \quad 3 \quad 4 \quad 2 \quad 7 \quad 6 \quad 2 \\ \times 3 \quad \times 9 \quad \times 3 \quad \times 8 \quad \times 3 \quad \times 9 \quad \times 3 \quad \times 3 \quad \times 7 \\ \hline \end{array}$$

What numbers do we multiply first in example A? What do we carry?

What numbers do we multiply next?

What do we add?

What is the answer to example A?

1. Copy the examples below without the answers. Multiply; then look to see if your answers are right.

$$\begin{array}{r} 23 \quad 65 \quad 13 \quad 74 \quad 32 \quad 97 \quad 68 \quad 56 \\ \times 5 \quad \times 3 \quad \times 9 \quad \times 1 \quad \times 8 \quad \times 3 \quad \times 2 \quad \times 3 \\ \hline 115 \quad 195 \quad 117 \quad 74 \quad 256 \quad 291 \quad 136 \quad 168 \end{array}$$

2. Copy the examples below, and multiply.

$$\begin{array}{r} 13 \quad 79 \quad 23 \quad 28 \quad 61 \quad 33 \quad 15 \quad 22 \\ \underline{-} \quad \underline{-} \\ 7 \quad 2 \quad 6 \quad 3 \quad 2 \quad 8 \quad 3 \quad 9 \end{array}$$

## Andy's Birthday

January 31 was Andy's birthday.

1. That morning Andy's mother told him she had asked 11 boys and 8 girls to come to a party in the afternoon. How many children did Andy's mother ask to come to the party?

2. Andy's mother wrote on paper the things he could do to help her. Andy planned his time this way: take care of baby brother, 30 minutes; go to store, 15 minutes; wash breakfast dishes, 25 minutes; pop pop-corn, 30 minutes. How many minutes did Andy plan to work on his birthday?

3. Andy went to the store to buy 3 quarts of milk and 2 dozen eggs. The milk cost 11 cents a quart, and the eggs cost 27 cents a dozen. How much did the 3 quarts of milk cost? How much did the 2 dozen eggs cost?

4. Andy's mother made 6 cookies and 2 candy apples for each of the 20 children. How many candy apples did she make? How many cookies did she make?

5. At the party, the children played a dart game. Betty won three games. Her score for each game was 38. What was Betty's score for all three?

6. Dick and Tom together found 65 peanuts in the peanut hunt. Tom found 38 peanuts. How many did Dick find?



### Using a Ruler

Sue had a kitchen in a corner of her playroom. She kept her dishes on two shelves. One day her mother gave her enough pretty green paper for the shelves.

Sue had to measure each shelf to find out what size to cut the paper. She measured with a ruler. Each of the shelves was 2 feet long and 4 inches wide.

The ruler that Sue used to measure the shelves was one foot long.

There are 12 inches in 1 foot.

The numbers on a ruler mark off the inches.

A ruler 12 inches long is called a foot ruler.

Look at your ruler. How many numbers are there on it?

Read the numbers on your ruler.

How many inches long is your ruler?

1. Use your ruler to draw a line 1 inch long on your paper.

2. Draw a line 3 inches long with your ruler.
3. Try to draw a straight line 2 inches long on your paper without using your ruler. Measure the line. Is it longer or shorter than 2 inches? *longer*
4. With your ruler, measure a piece of string 1 foot long, and cut it off. Cut a strip of paper 1 foot long. Mark the inches on it.
5. Without measuring, try to cut off a piece of string 2 feet long. Measure the piece that you cut off. Is it longer or shorter than 2 feet?
6. Measure this page with your ruler. It is a little more than \_\_\_ inches long.
7. Your pencil is about \_\_\_ inches long.
8. Your shoe is about \_\_\_ inches long.
9. Your hand is about \_\_\_ inches wide.
10. The paper on which you are writing is about \_\_\_ inches long and \_\_\_ inches wide.
11. Write the number that means 7 hundreds, 3 tens, and 2 ones.
12.  $900 - 349 =$
13.  $52 + 294 + 21 + 202 =$
14. Add the fourth number, the seventh number, and the ninth number in the row below.

8   2   6   3   9   7   5   4   9   0   1   2   3   8   1

How many inches are there in 3 feet?  
We must multiply 12 by 3 to get the answer.  
 $3 \times 12 = 36$ . There are \_\_\_ inches in 3 feet.  
Change each of the following to inches:  
2 feet   5 feet   8 feet   7 feet   1 foot   4 feet

## Mr. Fair's Food Sale

**BIG SALE!**  
— Tuesday Only —  
**FAIR'S FOOD STORE**

Apples	8¢ a pound
Lemons	23¢ a dozen
Corn	11¢ a can
Peas	9¢ a can
Oranges	45¢ a dozen
Milk	11¢ a quart
Cream	34¢ a quart
Sugar	7¢ a pound
Nuts	59¢ a pound
Beans	18¢ a pound
Honey	22¢ a glass

Mr. Fair is having a food sale at his store.

The prices for the sale are shown at the left.

1. How much more does a can of corn cost than a can of peas?

2. How much less do a dozen lemons cost than a dozen oranges?

3. Find the difference in the cost of a can of corn and a quart of milk.

4. If you have only a quarter, how much more money do you need to buy a quart of cream?

5. If you have 25 cents and you buy a quart of milk, how much money will you have left?

How much should you pay Mr. Fair if you buy:

6. a can of peas, a can of corn, and a quart of milk?

7. a pound of apples, a dozen oranges, and a can of peas?

8. a quart of milk, a dozen oranges, and a pound of sugar?

9. a pound of nuts and a pound of sugar?

10. a pound of beans and a glass of honey?

11. 2 quarts of cream? 12. 9 cans of corn?

How much should you pay Mr. Fair if you buy:

13. four glasses of honey?

14. three dozen oranges?

15. three pounds of beans?

16. two dozen oranges?

17. three pounds of nuts?

## Subtraction Practice

Find the difference in example 2 below.

In one of the examples below, you cannot subtract.

Which one is it? *b* Why?

Subtract in each of the other examples.

1.	2.	3.	4.	5.	6.	7.
914	432	750	81	307	541	208
<u>36</u>	<u>432</u>	<u>471</u>	<u>6</u>	<u>168</u>	<u>592</u>	<u>9</u>

## Multiplication Practice

Multiply in each example below.

103	210	32	216	394	30	131
<u>6</u>	<u>3</u>	<u>5</u>	<u>3</u>	<u>2</u>	<u>4</u>	<u>7</u>

113	99	250	112	103	66	100
<u>5</u>	<u>3</u>	<u>3</u>	<u>8</u>	<u>9</u>	<u>3</u>	<u>6</u>

## More Practice for Those Who Need It

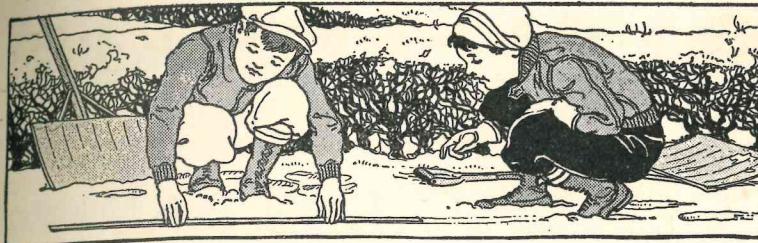
31	183	58	231	103	48	102
<u>5</u>	<u>3</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>3</u>	<u>7</u>



## Problems for Careful Readers



1. Sam's book has 274 pages. Bill's book has the same number of pages as Sam's. How many pages have the two books together?
2. Bobby has 18 lollipops. He told his mother that he was going to give 6 lollipops to Frank. How many lollipops will Bobby have left then?
3. Betty cut 18 puzzles out of a newspaper. Ann and Nancy liked the puzzles. So Betty gave each of the girls 6 puzzles. How many puzzles did Betty give to Ann and Nancy together?
4. Jane took 18 cookies to the playground. Sue and Mary went with her. Jane gave the other 2 girls 6 of her cookies. How many cookies did Jane have left?
5. Ann has 16 jacks. Sue has 3 times as many jacks as Ann. How many jacks has Sue?
6. Patty has 16 jacks. Nell has 3 more jacks than Patty. How many jacks has Nell?
7. Molly has 16 jacks. She has 3 more jacks than May. How many jacks has May?
8. June has 16 jacks. She has 3 fewer jacks than Polly. How many jacks has Polly?
9. Tom bought 3 pairs of stockings and 2 pairs of gloves. How many pairs of these things in all did he buy?
10. \$16 is how much more than \$11?



### Using a Yardstick

One morning when John got up, he saw that the ground was covered with snow. He hurried outside to shovel the snow from the sidewalk. Andy, who lived next door, also came out to shovel snow.

"Which of us has more to shovel?" asked John.  
"I don't know," said Andy. "Let's measure the sidewalks and see."

Each boy dropped his shovel and ran into his house. Andy came out with a foot ruler. John came out with a yardstick.

"Let's use the yardstick," said John. "It measures three feet at one time."

They measured the sidewalks. John's sidewalk was 20 yards long. Andy's was 15 yards long.

"Your walk is longer than mine," said Andy.  
A yardstick is one yard long.  
There are 3 feet in 1 yard.  
There are 12 inches in 1 foot.  
How many inches are there in one yard?

**Note to the Teacher.**—Several yardsticks should be available for the use of the pupils. The children should have considerable experience in actual measuring.



### Number-Drill

1.  $98$   
 $\times 2$

2.  $204$   
 $\times 2$

3.  $\$1.50$   
3.25  
3.19

4. Multiply:  
32  
7

5.  $8$   
704  
89  
9

6.  $935$   
 $- 539$

7. Subtract:    8.  $8 \times 31 =$   
\$7.34  
1.70

Which examples below have wrong answers? *all*  
Copy them, and find the correct answers.

1. $102$ $\times 8$	2. $121$ $\times 7$	3. $140$ $\times 2$	4. $22$ $\times 5$	5. $290$ $\times 3$	6. $427$ $\times 2$	7. $21$ $\times 6$
<u>806</u>	<u>847</u>	<u>282</u>	<u>111</u>	<u>870</u>	<u>854</u>	<u>136</u>

How many feet are there in 6 yards?

We must multiply 3 by 6 to get the answer.  
 $6 \times 3 = 18$ . There are \_\_\_ feet in 6 yards.

1. 4 yards = \_\_\_ feet.
2. 9 yards = \_\_\_ feet.
3. 7 yards = \_\_\_ feet.
4. 5 yards = \_\_\_ feet.

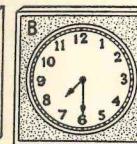
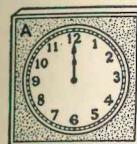
5. 13 yards = \_\_\_ feet.
6. 25 yards = \_\_\_ feet.
7. 15 yards = \_\_\_ feet.
8. 20 yards = \_\_\_ feet.

### Can You Open the Door?

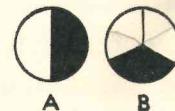
This page is the door to a new chapter. You can open the door if you can do the work below.



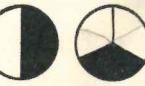
1. Write the sign that tells us to multiply.
2. A quarter equals \_\_\_ nickels.
3. A dollar equals \_\_\_ dimes.
4. Write four hundred ninety-one in figures.
5. Write nine hundred nine in figures.
6. In 435, the figure \_\_\_ means tens.
7. Write two dollars and five cents in figures.
8. Write fifteen dollars in figures.
9. Write  $8\text{¢}$  in another way, using figures.
10. Clock A shows what time?
11. Clock B shows what time?
12. One foot = \_\_\_ inches.
13. One yard = \_\_\_ feet.
14. One yard = \_\_\_ inches.



15. 4 yards = \_\_\_ feet.
16. One- \_\_\_ of circle A is black.
17. One- \_\_\_ of circle B is black.
18. 243 times 3 is \_\_\_.
19.  $8 + 0 =$
20.  $8 - 0 =$
21.  $8 \times 0 =$
22.  $180$
23.  $400$
24.  $204$
25.  $597$
26.  $- 32$
27.  $\times 3$
28. Subtract 468 from 477.



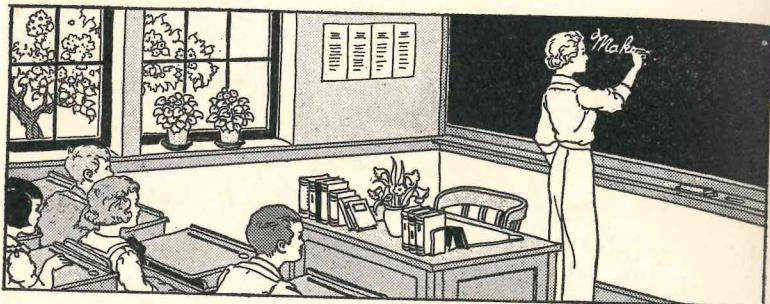
A



B

## CHAPTER 5

### WORK AND PLAY AT SCHOOL AND AT HOME



#### A School Programme

One day in April, the children in Bobby's room planned a school programme. They asked three other rooms to take part in their programme.

The following problems tell about the plans the children made and the programme they had.

Read each problem carefully. If you should multiply to get the answer, look at the examples at the bottom of page 103. Find an example that gives the answer to the problem. If you should add or subtract to get the answer to the problem, make an example that shows the answer.

1. Each of the 4 rooms planned to do 4 things for the programme. How many things in all did the 4 rooms plan?

2. Big signs had to be painted for the programme. 7 girls painted the signs. Each girl painted 4 signs. How many signs did the 7 girls paint?

3. John sold 4 tickets for 5 cents each. He gave the money to Miss Fisher. How much money did he give her?

4. Each of 4 boys sold 9 tickets. How many tickets did these 4 boys sell in all?

5. On the day of the programme, 4 boys and 5 girls had some tickets left to sell. How many children had tickets left to sell?

6. 6 girls from each of the 4 rooms were in a play. How many girls were in the play?

7. 6 girls from one room and 4 from another were dressed like flowers in the play. How many girls from both rooms were dressed like flowers?

8. A butterfly dance was given by 8 girls. 4 of the girls had red wings, and the others had black wings. How many girls had black wings?

9. At the end of the play, some children sang a song. The children who sang stood in 4 rows with 8 in each row. How many children sang the song?

Learn these examples with their answers:

A	B	C	D	E	F	G	H	I	J	K
5	4	9	6	8	4	7	4	4	4	4
×4	×7	×4	×4	×4	×4	×4	×5	×8	×6	×9
20	28	36	24	32	16	28	20	32	24	36

1. Give the answers to the examples below.

$$\begin{array}{r} 7 \quad 4 \quad 3 \quad 9 \quad 2 \quad 4 \quad 6 \quad 8 \quad 4 \quad 4 \\ \times 4 \quad \times 5 \quad \times 6 \quad \times 4 \quad \times 5 \quad \times 6 \quad \times 0 \quad \times 4 \quad \times 4 \quad \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \quad 4 \quad 4 \quad 6 \quad 4 \quad 4 \quad 3 \quad 7 \quad 4 \quad 0 \\ \times 4 \quad \times 9 \quad \times 1 \quad \times 4 \quad \times 8 \quad \times 5 \quad \times 8 \quad \times 4 \quad \times 6 \quad \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \quad 5 \quad 4 \quad 8 \quad 4 \quad 4 \quad 5 \quad 7 \quad 4 \quad 6 \\ \times 4 \quad \times 3 \quad \times 4 \quad \times 4 \quad \times 7 \quad \times 9 \quad \times 4 \quad \times 2 \quad \times 8 \quad \times 4 \\ \hline \end{array}$$

2. Find the sums:

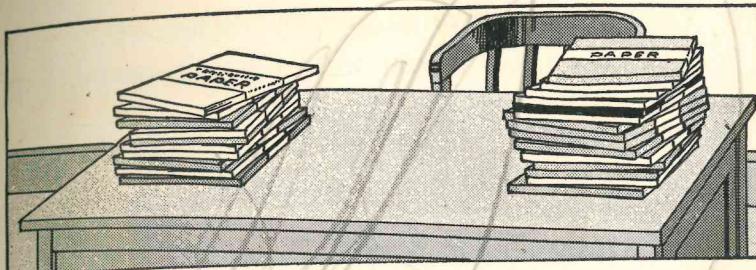
54						39
75	678	69		6		88
139	57	5	408	134	538	8
17	96	74	168	51	75	59
627	79	150	236	314	305	8

3. Find the differences:

917	950	808	444	321	143	902
223	946	199	315	228	7	140

4. Multiply in each example below.

37	32	446	33	217	22	213
3	9	2	5	3	7	4
102	22	79	78	103	86	131
6	8	3	2	9	3	7
40	437	71	260	82	41	240
6	2	4	3	4	9	4



### Reading Large Numbers

The picture at the top of the page shows some packages of paper that Miss Fisher had on her desk one morning. There are 100 sheets of paper in each package.

How many sheets of paper are in the pile on the left? Find out by counting the packages this way: one hundred, two hundred, three hundred, four hundred, five hundred, six hundred, seven hundred, eight hundred, nine hundred, ten hundred.

Ten hundred means the same as one thousand.

One thousand is written in figures this way → 1000

Now count the paper in the pile at the right in the picture. Is fifteen hundred correct?

Fifteen hundred means the same as one thousand five hundred.

One thousand five hundred is written in figures this way → 1500

**2465**

Look at the number at the left.

We read it this way: two thousand four hundred sixty-five.

In the number 2465, 2 means thousands, 4 means hundreds, 6 means tens, 5 means ones.

What figures should be where the lines are?

1. 2746 means 2 thousands, 7 hundreds, 4 tens, and 6 ones.
2. 9360 means 9 thousands, 3 hundreds, 6 tens, and 0 ones.
3. 4015 means 4 thousands, 0 hundreds, 1 ten, and 5 ones.

Read the number words on each line below. Then read the number that follows the words.

4. Six thousand three hundred fifty-four....6354
5. Nine thousand one hundred seventy....9170
6. Four thousand nine hundred.....4900
7. Two thousand five hundred eight.....2508
8. Eight thousand.....8000
9. Seven thousand thirteen.....7013

Read these numbers:

A	B	C	D	E
10. 3821	7490	5267	1040	9600
11. 4000	6082	8006	2904	5739
12. 3300	9000	4150	1515	6073
13. 7030	8888	5607	3009	502

### Carrying Twice in Multiplication

Sometimes we have to carry more than once when we multiply.

Look at example A.

What figure do we multiply first?

What figure do we carry?

What figure do we multiply next?

What figure do we carry?

How do we get the 7 in the answer?

How many times do we carry in example A?

Copy these examples, and multiply:

238	340	697	32	157	131	464
— 4	— 5	— 2	— 8	— 4	— 9	— 3

Watch out for the zero in example B.

How do we get the 8 in the answer?

How do we get the other figures in the answer?

A

247	×	3
<u>741</u>		

B

136	×	3
<u>408</u>		

Copy these examples, and multiply:

854	336	268	43	276	113	295
— 2	— 4	— 3	— 6	— 4	— 8	— 4

377	231	134	205	341	67	426
— 4	— 3	— 9	— 2	— 5	— 3	— 4

614	104	65	331	24	742	22
— 2	— 4	— 4	— 7	— 6	— 4	— 6



### Multiplying Money

The children in Bobby's room planned to buy four playground balls with the money they got from the programme. Two boys went to a store to see what the four balls would cost. One kind of ball cost \$1.35 each. Another kind cost 98¢ each.

Example A shows what four balls will cost, if one costs \$1.35.

Where is the decimal point written in the answer?

How much will four balls cost?

Example B shows what four balls will cost, if one costs 98¢.

98¢ is written with the dollar sign and the decimal point when we multiply.

Where is the decimal point written in the answer?

How much will four balls cost?

$$\begin{array}{r} \text{A} \\ \$1.35 \\ \times 4 \\ \hline \$5.40 \end{array}$$

$$\begin{array}{r} \text{B} \\ \$ .98 \\ \times 4 \\ \hline \$3.92 \end{array}$$



### Making Picture-Books

The children in Betty's room made picture-books about the people who live in other lands. The picture at the top of the page shows four of them.

1. The boys made 8 books. The girls made twice as many as the boys. How many books did the girls make?

One of the numbers that you must use to answer problem 2 is missing. You will find this number in the answer to problem 1.

2. Eight of the books the children made were large. The others were small. How many small books did they make?

What was the missing number in problem 2?

When you read a problem in which a number is missing, look for the number in some other problem that you have worked.

3. One-half of the large books had pictures of Eskimos in them. How many of the large books had pictures of Eskimos?

4. 19 of the books had coloured pictures. How many of the books did not have coloured pictures?

5. The children made 13 books about Dutch boys and girls. Each of these books had 4 pictures in it. How many pictures were in all 13 books?

6. Each of the books about Dutch boys and girls had 8 pages. How many pages were there in all of the books about Dutch children?

7. The girls brought 56 pictures for the books. The boys brought 47. How many pictures did all the children bring? How many fewer pictures did the boys bring than the girls?

8. Twenty-nine of the pictures that the girls brought were coloured. How many of the pictures that the girls brought were not coloured?

#### Number-Drill

$$\begin{array}{r} 1. 123 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2. 396 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \$08 \\ .42 \\ + .85 \\ \hline \end{array}$$

$$\begin{array}{r} 4. 103 \\ - 95 \\ \hline \end{array}$$

$$5. 4 \times 81 =$$

$$\underline{.65}$$

$$6. 3 \times 18 =$$

$$7. 941 - 806 =$$

$$8. 2 \times 73 =$$

$$9. 30 \times 6 =$$

The dollar sign and the decimal point are missing in each answer below. Where should we put the decimal point and the dollar sign in each answer?

$$\begin{array}{r} \$2.15 \\ \times 3 \\ \hline 645 \end{array} \quad \begin{array}{r} \$1.40 \\ \times 5 \\ \hline 700 \end{array} \quad \begin{array}{r} \$.87 \\ \times 2 \\ \hline 174 \end{array} \quad \begin{array}{r} \$1.89 \\ \times 4 \\ \hline 756 \end{array} \quad \begin{array}{r} \$.14 \\ \times 6 \\ \hline 84 \end{array} \quad \begin{array}{r} \$.43 \\ \times 7 \\ \hline 301 \end{array}$$



#### Pints, Quarts, and Gallons

Patty and Sue were making lemonade for a party at school.

They made 4 gallons of lemonade. They used a quart can to measure it. They were careful not to spill any.

They found that in 1 gallon there are 4 quarts. How many quarts of lemonade did the girls make? *4*

The girls found that 2 pints made 1 quart. How many pints of lemonade did they make? *32*

Answer the following:

1. How many pints are there in 3 quarts?
2. How many pints are there in 5 quarts? *10*
3. 7 quarts are \_\_\_\_ pints.
4. 9 quarts are \_\_\_\_ pints.
5. There are 4 quarts in 1 gallon. How many quarts are there in 5 gallons?
6. How many quarts are there in 7 gallons?
7. 6 gallons are \_\_\_\_ quarts.
8. 9 gallons are \_\_\_\_ quarts.

### Problems for Careful Readers

1. The difference between the ages of two boys is 4 years. The younger boy is 12 years old. How old is the older boy?

2. If one dozen eggs cost 18¢, how much will two dozen eggs cost?

3. Bill is 57 inches tall. John is 5 feet tall. Which is the taller boy?

4. Tom and Joe were paid the same money for each day they watered Mr. Brown's garden. Tom watered it 18 days. Joe watered it each day for two weeks. Which boy earned the more money?

5. Ann divided some little cakes among 6 girls. She gave each girl 3 cakes. How many cakes did Ann divide among the 6 girls?

6. John is 9 years old. His older brother is three times as old as John. How old is John's older brother?

7. Mary's mother sent her to the store to get 4 dozen eggs. Mary brought home 48 eggs. Did Mary buy as many eggs as her mother told her to?

8. Bobby has \$4.62. Billy has \$2.76. How much have the two boys together?

9. Nancy and Jane together have \$4.62 in the bank. \$2.76 of the money belongs to Nancy. How much of the money belongs to Jane?

10. Andy has \$10.72. Frank has \$4.50 less than Andy. How much money has Frank?

### Learning through Practice

1. Find the sums:

	79		9			
	484	46	17	24		506
91	50	46	433	82	119	349
616	78	15	541	6	429	47
71	<u>773</u>	<u>59</u>	<u>9</u>	<u>95</u>	<u>115</u>	<u>608</u>

		37		57		
78		462	47		99	448
39	68		89	170	69	29
48	74	3		87	58	46
29	189	90	4		780	39
86	<u>181</u>	<u>589</u>	<u>96</u>	<u>780</u>	<u>39</u>	<u>389</u>

2. Find the differences:

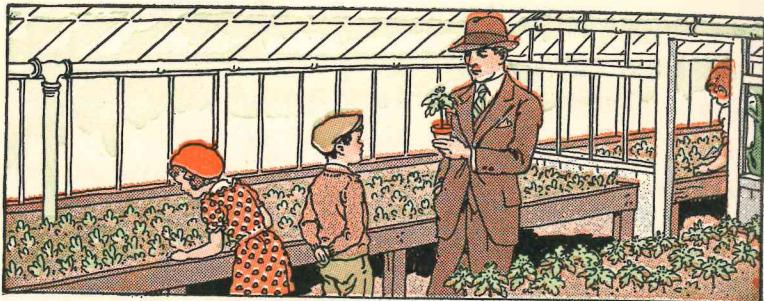
4165	957	785	7308	854	8002	571
3306	<u>597</u>	<u>687</u>	<u>50</u>	<u>309</u>	<u>4962</u>	<u>188</u>

7240	630	807	737	2056	412	431
7160	<u>298</u>	<u>592</u>	<u>389</u>	<u>327</u>	<u>206</u>	<u>257</u>

3. Multiply:

440	23	244	543	104	632	334
5	<u>9</u>	<u>7</u>	<u>4</u>	<u>9</u>	<u>4</u>	<u>6</u>

698	143	104	412	849	44	858
4	<u>8</u>	<u>5</u>	<u>9</u>	<u>4</u>	<u>8</u>	<u>2</u>



### A Visit to the Greenhouse

One afternoon after school, Father took Bobby and Betty with him to visit a greenhouse. They bought plants and seeds for their garden.

The following problems tell what they bought.

Read each problem carefully. If you should multiply to get the answer, look at the examples at the top of page 116. Find an example that gives the answer to the problem. If you should add or subtract to get the answer, make an example that shows the answer.

1. Father bought 9 packages of seeds. He paid 5 cents for each package. How much did he pay for all 9 packages?

2. Father bought 5 tomato plants in pots. He paid 7 cents apiece for them. How much did he pay for all the tomato plants?

3. Betty chose 6 tomato plants, and Bobby chose 5. How many did they both choose?

4. Father wanted to buy enough cabbage plants to make 5 rows with 5 plants in each row. How many cabbage plants did he need to buy?

5. Bobby picked out 6 boxes of pepper plants. Each box had 5 plants in it. How many pepper plants were there in the 6 boxes?

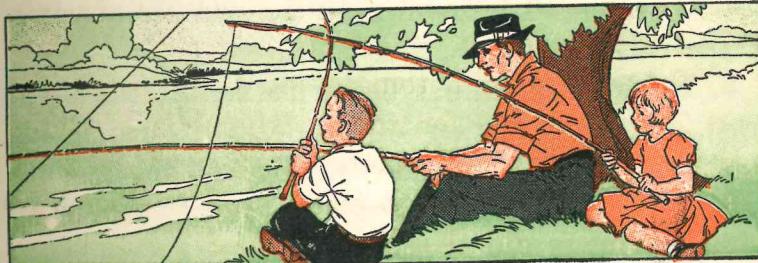
6. Father bought 9 dozen onions. 2 dozen were for Bobby's garden. The others were for Father's garden. How many were for Father's garden?

7. They bought enough lettuce plants to make 5 rows of 8 plants each. How many lettuce plants did they buy?

8. Father bought 10 rose-bushes. He gave each child one-half of them. How many did he give to Betty?

9. 6 of the rose-bushes that Father bought were small. The others were large. How many large rose-bushes did he buy?

The next day, the children went fishing with Father. Before you read the story, learn the multiplication examples, with their answers, at the top of page 116.



A	B	C	D	E	F	G	H	I
$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$	$\begin{array}{r} 7 \\ \times 5 \\ \hline 35 \end{array}$	$\begin{array}{r} 5 \\ \times 6 \\ \hline 30 \end{array}$	$\begin{array}{r} 9 \\ \times 5 \\ \hline 45 \end{array}$	$\begin{array}{r} 5 \\ \times 7 \\ \hline 35 \end{array}$	$\begin{array}{r} 5 \\ \times 5 \\ \hline 25 \end{array}$	$\begin{array}{r} 5 \\ \times 8 \\ \hline 40 \end{array}$	$\begin{array}{r} 6 \\ \times 5 \\ \hline 30 \end{array}$	$\begin{array}{r} 5 \\ \times 9 \\ \hline 45 \end{array}$

### A Fishing Trip

Some of these problems do not ask questions. They tell you to find out something. Work them in the same way you work problems that ask questions.

1. On Saturday, Bobby and Betty went fishing with Father. To get to the lake they walked 2 miles, and rode in the car 4 times as far as they walked. Find how many miles they rode in the car.

2. Bobby's fish-pole was 48 inches long. His father's pole was twice as long as Bobby's pole. Find how many inches long his father's fish-pole was.

3. Bobby's fish-line was 9 yards long. Father's fish-line was 5 times as long as Bobby's. How long was Father's fish-line?

4. Father told Bobby that he had never used the last 10 yards of his line. Find the number of yards of the fish-line that Father had used.

5. Bobby and Father began to fish at the same time. It took Father 15 minutes to catch his first fish. 5 minutes later Bobby caught his first fish. Find the number of minutes it took Bobby to catch his first fish.

6. Betty stopped fishing to look for flowers. She found the following kinds of flowers: 4 red kinds, 6 white kinds, 5 blue kinds, and 6 yellow kinds. How many kinds of flowers did she find in all?

7. Betty divided some fruit so that they each had 3 oranges and 2 bananas. How many oranges did all 3 have? How many bananas did all 3 have?

8. Betty gave her fish to Father and Bobby to take home. Bobby had 7 fish to take home. Father had twice as many as Bobby. How many had Father?

Give the answers to the examples below.

$$\begin{array}{r} 7 & 4 & 3 & 9 & 2 & 4 & 6 & 8 & 4 & 4 \\ \times 4 & \times 5 & \times 6 & \times 4 & \times 5 & \times 6 & \times 0 & \times 4 & \times 4 & \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 & 4 & 4 & 6 & 4 & 4 & 3 & 7 & 4 & 0 \\ \times 4 & \times 9 & \times 1 & \times 4 & \times 8 & \times 5 & \times 8 & \times 4 & \times 6 & \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 & 5 & 4 & 8 & 4 & 4 & 5 & 7 & 4 & 6 \\ \times 4 & \times 3 & \times 4 & \times 4 & \times 7 & \times 9 & \times 4 & \times 2 & \times 8 & \times 4 \\ \hline \end{array}$$

Multiply in the examples below.

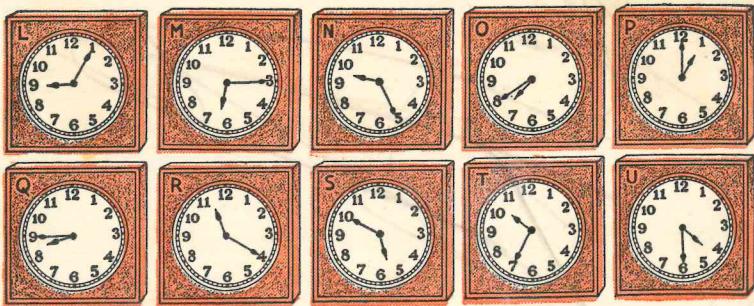
$$\begin{array}{r} 51 & 40 & 162 & 41 & 62 & 104 & 90 & 142 \\ 4 & 7 & 2 & 8 & 4 & 3 & 4 & 4 \\ \hline \end{array}$$

$$\begin{array}{r} \$3.25 & \$.47 & \$.12 & \$1.23 & \$2.35 & \$.33 & \$1.85 \\ 2 & 4 & 5 & 7 & 3 & 8 & 4 \\ \hline \end{array}$$

$$\begin{array}{r} \$.34 & \$3.06 & \$2.40 & \$.24 & \$1.25 & \$.13 & \$2.12 \\ 9 & 4 & 5 & 8 & 4 & 6 & 9 \\ \hline \end{array}$$

## Practice in Telling Time

What time does each clock below show?



Draw clocks showing:

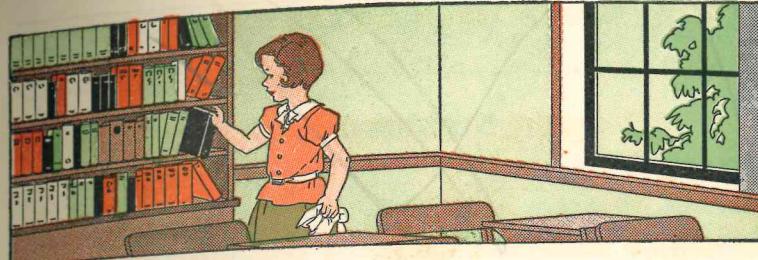
1. 5 o'clock.
2. 11 o'clock.
3. 10 minutes past 8.
4. 25 minutes past 6.
5. 10 minutes to 1.
6. 25 minutes to 4.
7. 20 minutes past 12.
8. Half-past 2.
9. 15 minutes to 6.
10. 5 minutes to 7.
11. 20 minutes to 9.
12. 5 minutes after 11.

What figure is missing?

1. 8 feet = \_\_\_\_ inches. 93 gallons = \_\_\_\_ quarts.
2. 45 yards = \_\_\_\_ feet. 56 quarts = \_\_\_\_ pints.
3. 4 pounds = \_\_\_\_ ounces. 9 dozens = \_\_\_\_.

What word is missing?

1. Father bought 5 \_\_\_\_ of gasoline for his car.
2. Mother bought 50 \_\_\_\_ of flour at the store.
3. Uncle John is 6 \_\_\_\_ tall.
4. Nancy bought 4 \_\_\_\_ of cloth to make a dress.
5. A box of pepper weighs 8 \_\_\_\_.



## Reading Library Books

These problems are about things that the children learned from their library books.

1. John learned that the Dutch boys live 4000 miles away and that the Eskimos live 1500 miles away. How much farther away do the Dutch boys live than the Eskimos?
2. Jane found out that her heart should beat about 75 times in one minute. About how many times should her heart beat in 5 minutes?
3. In one book Betty read that an aeroplane can travel 240 miles in one hour and that a train can travel 72 miles in one hour. How many miles farther can the aeroplane travel in one hour than the train?
4. How many miles can the aeroplane travel in six hours? How many miles can the train travel in three hours?
5. Mary learned that in the far north there are 24 daylight hours in each day during the summer. How many daylight hours are there in 5 days?



### Number-Drill

1. 663	2. 607	3. \$4.76	4. 3238
579	$\times 5$	$\times 4$	$-1986$
704			
97			
5. 5 times 80 =		6. $407 \times 4 =$	
7. $\$1.00 + \$0.69 + \$8.05 + \$1.98 =$			

### Examples for Good Workers

1. Begin with 1 and count by fours like this:  
1, 5, 9, 13, 17, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_, \_\_\_.  
When you get to 41, stop.
2. Begin with 2 and count by fours. Stop at 42.
3. Begin with 3 and count by fives. Stop at 53.
4. Begin with 4 and count by sixes. Stop at 64.
5. Begin with 5 and count by sevens. Stop at 75.

A	B	C	D	E	F
427	193	805	694	378	950

1. Find the difference between the number marked A and the number marked F.
2. Add number A and number D.
3. Subtract number E from number C.
4. Find the sum of the numbers, B, F, and D.
5. How much more is number D than number B?

### Problems for Careful Readers

1. John had 128 marbles. Frank gave him 25 marbles. Then how many did John have?
2. Ned had 128 marbles. Joe and Tom together gave him 25 marbles. Then how many had Ned?
3. Frank had 128 marbles. Joe and Tom each gave him 25. How many marbles in all did they give him?
4. Bobby had 128 marbles. He gave Joe and Tom together 25 of his marbles. How many marbles did Bobby have left?
5. Jack had 128 marbles. How many marbles could he have given Bill, and still have had 25 left?
6. Jim divided all his marbles between Joe and Tom. He gave each boy 128 marbles. How many marbles did Jim have before he gave them away?
7. Andy had 128 marbles. Joe had two times as many marbles as Andy. How many marbles had Joe?
8. Betty's mother sent her to the store to get 2 dozen eggs. Betty brought home 24 eggs. Did Betty bring home the correct number of eggs?
9. Nancy's clothes-line is 9 feet long. Sue's is 8 yards long. Which clothes-line is longer?
10. Ann's father wrote some letters. Each one weighed 1 ounce. All the letters together weighed 2 pounds. How many letters did Ann's father write?
11. 62 gallons of milk will fill how many quart bottles?

## Learning through Practice

1. Find the answers:

	\$ .02		\$ .83		
\$5.70	.19	\$ .53	.27		
.05	.46	1.90	.31	\$2.92	\$ .27
.02	.59	.87	.08	5.72	4.49
3.70	.74	3.81	.93	6.91	.06
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
\$1.15	\$42.17	\$8.93	\$9.00	\$14.49	\$71.30
-.46	-.51	-.6.95	-.1.53	-.7.61	-.70.98

2. Multiply:

\$ .45	\$1.57	\$7.49	\$ .98	\$5.23	\$ .24
— 8	— 2	— 5	— 5	— 7	— 4
\$1.38	\$2.52	\$ .45	\$ .05	\$1.42	\$2.26
— 4	— 9	— 7	— 4	— 6	— 5

### More Practice for Those Who Need It

\$2.05	\$ .98	\$3.15	\$5.83	\$1.67	\$5.04
— 6	— 3	— 8	— 4	— 5	— 9

### Missing Numbers

What number is missing in each example?

A	B	C	D
$7 + \dots = 11$	$\dots \times 7 = 28$	$16 - \dots = 9$	$\dots - 5 = 8$
$\dots - 4 = 6$	$\dots - 7 = 6$	$5 \times \dots = 30$	$\dots + 9 = 13$
$12 - \dots = 4$	$9 + \dots = 15$	$35 - \dots = 5$	$3 \times \dots = 24$
$\dots \times 5 = 45$	$36 - \dots = 9$	$\dots + 6 = 14$	$\dots - 3 = 8$

## A Baseball Game

1. Joe and his father went to a baseball game one Saturday afternoon. Father paid \$1.50 for the tickets, 90¢ for car-fare, 15¢ for candy, and 20¢ for ice-cream. How much money did Father spend in all?

2. Thirty cents of the car-fare was for Joe. How much of the car-fare was for Father?

3. Joe's ticket cost 50¢, and his father's cost twice as much. How much did his father's ticket cost?

4. Joe counted 120 benches on one side of the ball field. Each bench would hold five people. How many people would all these benches hold?

5. The team that won the game had a score of

14. This score was 9 larger than the score of the team that lost. Find the score of the team that lost.

6. It took Joe and his father 45 minutes to get to the ball field, and 55 minutes to get back home. They spent 120 minutes watching the game. How many minutes was this in all? How many fewer minutes did it take them to go to the ball field than to get back home?

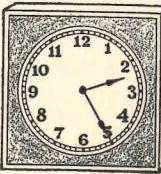
7. The man who sells pop-corn and ice-cream at the ball field sold 132 ice-cream cones that day. The day before, he sold 5 times as many. How many cones did he sell the day before?



### Number-Drill

1.  $831 - 556 = 365$       2. Subtract:  $\begin{array}{r} \$7.25 \\ - \$64.17 \\ \hline 63.29 \end{array}$       3.  $6 \times 354 = 2124$

5. What time does this clock show?  
 6. Write these numbers in a column, and add: 68, 90, 7, 79, 75.  
 7.  $345 \times 9 =$   
 8. Write this number in figures:  
 three thousand eight hundred nine.



9. Finish each example below by writing a sign and a number. Finish the first example this way:  $3 \times 4 = 12$ , or  $3 + 9 = 12$ .

$$\begin{array}{lll} 3 \underline{\quad} = 12 & 8 \underline{\quad} = 16 & 10 \underline{\quad} = 5 \\ 4 \underline{\quad} = 16 & 12 \underline{\quad} = 4 & 4 \underline{\quad} = 20 \\ 14 \underline{\quad} = 7 & 5 \underline{\quad} = 15 & 18 \underline{\quad} = 2 \end{array}$$

10. Find the answers for the examples below, and check your work.

$$\begin{array}{rrrrrr} 98 & & 12 & & 26 & \\ 29 & & 1 & 79 & 4 & \\ 39 & & 175 & 67 & 3 & \\ 831 & 98 & 1350 & 483 & 88 & 814 \\ -252 & 8 & -914 & 60 & 54 & -807 \\ \hline & & & & 50 & \end{array}$$

### A Review Page

1. Write the sign that tells you to multiply.
2. There are \_\_\_\_ inches in 1 foot.
3. There are \_\_\_\_ feet in one yard.
4. 7 yards = \_\_\_\_ feet.
5. Write one dollar and two cents in figures.
6. Write 5¢ in figures in another way.
7. There are \_\_\_\_ eggs in one dozen.
8. There are \_\_\_\_ inches in one yard.
9. There are \_\_\_\_ inches in 6 feet.
10. Write one-third, using figures.
11. If an apple is cut into fourths, it is cut into \_\_\_\_ equal parts.
12. Write one-quarter, using figures.
13.  $6 + 2 =$       16.  $27 \times 4 =$       17.  $103 - 392 =$       18.  $460 - 125 =$
14.  $6 - 2 =$       69
15.  $6 \times 2 =$       47

Write on your paper, in their correct order, the words in each line below.

1. in There quarts three are pints six
2. same as Sixteen the pound are ounces one
3. foot twelve the same inches is A as
4. less hundred is thousand Eight than one
5. dollars One-half is ten five of dollars
6. pounds than 79 more are 85 pounds
7. eggs are in There twelve dozen eggs a



### Planting a Garden

1. On Monday evening, Father began to work in his garden. Jerry helped him for 15 minutes on Monday evening, 25 minutes on Tuesday evening, and 15 minutes on Wednesday evening. How many minutes did Jerry help on all three evenings?
2. Father bought 36 tomato plants, 18 cabbage plants, 30 lettuce plants, and 12 pepper plants. How many plants of all four kinds did he buy?
3. Jane made a flower-bed in one corner of the garden. The seeds for the flowers that she wanted to plant in it cost 75¢. Jane had only 39¢. How much more money did she need to buy the seeds?
4. Father spent \$2.65 for plants, and \$1.10 for seeds for his garden. How much more did he spend for plants than for seeds?
5. Jerry planted 25 hills of pop-corn in the garden. His father told him to plant three times as many hills of sweet-corn as of pop-corn. How many hills of sweet-corn should Jerry plant?

### What Have You Learned?

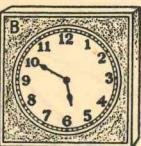
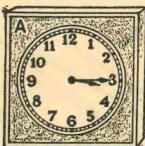
This book has taken you on a long trip through Numberland. See if you remember the things that you have learned along the way. If you can do the work on this page and the next, you are ready for next year's trip.

#### Part One

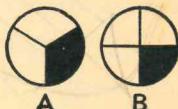
1. The minus sign tells us to \_\_\_\_.
2. One dollar equals \_\_\_\_ quarters.
3. One dollar equals \_\_\_\_ dimes.
4. One quarter equals \_\_\_\_ nickels.
5. One-half dollar equals \_\_\_\_ cents.
6. Write 9¢ in figures in another way.
7. Write six dollars and ten cents in figures.
8. Write ten dollars in figures.
9. 465 means \_\_\_\_ hundreds, \_\_\_\_ tens, and \_\_\_\_ ones.
10. Write seven hundred nine in figures.
11. 2405 means \_\_\_\_ thousands, \_\_\_\_ hundreds, \_\_\_\_ tens, and \_\_\_\_ ones.
12. Write four thousand six hundred twenty-one in figures.
13. Write the ninth number from the left in this row: 4 5 8 0 1 3 7 9 2 6.
14. Four dollars equal \_\_\_\_ half-dollars.
15. Five weeks equal \_\_\_\_ days.
16. The third day of the week is \_\_\_\_.
17. To find the sum of two numbers we \_\_\_\_.

## Part Two

1. One hour equals \_\_\_\_ minutes.
2. The hour hand goes around the clock once every \_\_\_\_ hours.
3. It takes the minute hand \_\_\_\_ minutes to go from one number to the next number.



4. Clock A shows what time?
5. Clock B shows what time?
6. One day equals \_\_\_\_ hours.
7. One foot = \_\_\_\_ inches.
8. One- \_\_\_\_ of circle A is black.
9. One- \_\_\_\_ of circle B is black.
10. 8 quarts = \_\_\_\_ pints.



	A	B	C	D	E	F	G
11.	47				49		
	9	629		15	28	347	
	87	88	51	594	57	299	4
	29	54	687	9	59	48	566
	63	129	309	534	17	707	24
12.	201	600	3938	651	196	912	3701
	-194	-156	-243	-302	-8	-686	-3009
13.	79	947	142	89	55	542	403
	×4	×5	×9	×5	×6	×8	×4
14.	553	895	44	405	844	98	324
	×9	×3	×8	×7	×5	×4	×5

## CHAPTER 3—Continued

	Page	Page	
Problems without Numbers.	63	A Game of Words.....	70
Quick Drill.....	64	Zero in Subtraction.....	71
Christmas at Aunt Sue's.....	65	Building Snow-Men.....	72
The Day after Christmas.....	67	Can You Open the Door?....	73

## CHAPTER 4

### HOME PLAY

Bosco and Bozo.....	74	Roll Ball.....	90
Patty's Toy Builders.....	76	Quick Drill.....	91
What "Multiply" Means.....	78	Practice in Multiplication	
Problems about Holiday Fun.....	79	with Carrying.....	92
Making Things for Dolls.....	80	Andy's Birthday.....	93
Practice in Multiplying.....	81	Using a Ruler.....	94
Watching Signs.....	81	Mr. Fair's Food Sale.....	96
Playing Ring Peg.....	82	Subtraction Practice.....	97
The Toy Farm.....	84	Multiplication Practice.....	97
Pounds and Ounces.....	85	Problems for Careful Readers.....	98
Multiplying Larger Numbers.....	86	Using a Yardstick.....	99
Buying Toys.....	87	Number-Drill.....	100
Multiplication with Carrying.....	89	Can You Open the Door?....	101

## CHAPTER 5

### WORK AND PLAY AT SCHOOL AND AT HOME

A School Programme.....	102	Reading Library Books.....	119
Reading Large Numbers.....	105	Number-Drill.....	120
Carrying Twice in Multiplication.....	107	Examples for Good Workers.....	120
Multiplying Money.....	108	Problems for Careful Readers.....	121
Making Picture-Books.....	109	Learning through Practice.....	122
Number-Drill.....	110	Missing Numbers.....	122
Pints, Quarts, and Gallons.....	111	A Baseball Game.....	123
Problems for Careful Readers.....	112	Number-Drill.....	124
Learning through Practice.....	113	A Review Page.....	125
A Visit to the Greenhouse.....	114	Planting a Garden.....	126
A Fishing Trip.....	116	What Have You Learned?....	127
Practice in Telling Time.....	118	Part One.....	127
		Part Two.....	128

